Aquaterra
39 Pinnacle Drive
South Burlington, Vermont 05403
Tel/fax: (802) 860-5016

20 February 1997

Mr. John Ostrum
Department of State Buildings
Two Governor Aiken Avenue, Drawer 33
Montpelier, Vermont 05633-5801

Re: Site Investigation report for State Office Building (Site #96-2071) in Newport, VT

Dear Mr. Ostrum

Enclosed is one copy of the *"Level II Site Investigation at site of the proposed Emory A. Hebard State Office Building in Newport, Vermont"* report prepared by Aquaterra. This copy includes corrections and changes we discussed on 19 February. As we also discussed, a copy of this report has been sent to Mr. Chuck Schwer at the State Agency of Natural Resources Department of Environmental Conservation Waste Management Division. Also included are revised pages and a report cover to update the previous copy of this report dated 7 February 1997 already sent to you; please update that report with these pages.

I left a message with Mr. Schwer regarding our desire to meet with the Agency in early March concerning future activities at this site. In my message, I suggested a tentative meeting date of 11 March, and also gave him your name and number (828-3314). Please feel free to schedule a meeting with Mr. Schwer in my absence; I should be able to make any date beginning on 6 March.

In case you have any questions, I will call you early next week.

Sincerely

Roland Luxenberg

Roland Luxenberg, P.E.

cc: Mr. Chuck Schwer, ANR DEC Waste Management Division

Level II Site Investigation at site of the proposed Emory A. Hebard State Office Building in Newport, Vermont (Site #96-2071)

(Latitude 44° 56.11' Longitude 072° 12.54')

Site Owner
State of Vermont
Department of State Buildings
Two Governor Aiken Avenue Drawer 33
Montpelier, Vermont 05633-5801
(802) 828-3314
Contact: Mr. John Ostrum

Site Address
Main Street, North Avenue, and Lane Avenue
Newport, Vermont 05855
(802) 334-3376

Prepared by
Aquaterra
39 Pinnacle Drive
South Burlington, Vermont 05403
(802) 860-5016
Contact: Mr. Roland Luxenberg, P.E.

19 February 1997

Level II Site Investigation at site of the proposed Emory A. Hebard State Office Building in Newport, Vermont (Site #96-2071)

Executive Summary

Three underground fuel oil storage tanks were removed on 29 August 1996 from three different former properties on the 3.04 acre site of the proposed Emory A. Hebard State Office Building site in Newport, Vermont. At each of these properties (3, 5, and 8, formerly owned by Spates, Wilder, and Kibbee respectively), impacted soils above State guidelines via headspace screening had been observed, and infiltrating ground water into the excavation at the Kibbee property visually appeared to be impacted. Soil and ground water sampling was conducted on 20 and 21 November 1996, soil borings with monitoring well installations were completed on 2 and 3 January 1997, and ground water sampling was conducted on 13 January 1997.

Soil borings showed the site to consist of fine silty sands, with some coarser sands and gravel, underlain by silty clay. The site slopes from south (710 feet above the National Geodetic Vertical Datum) to north (687 feet), ending some 60 feet from the Lake Memphremagog shoreline. Ground water elevation underneath the site is likely controlled by lake level, which varies from ordinary low level of 679.3 feet to ordinary high level of 682.7 feet. Depth to ground water is expected to range from about 30 to 4 feet below grade, depending upon ground elevation. Ground water appears to flow in a northwesterly direction.

Water sampling found impacted ground water at six (6) out of seven (7) monitoring wells. The majority of the ground water impact was in terms of total petroleum hydrocarbon content; no well had a volatile organic compound concentration above the Primary Ground Water Enforcement Standard. Along with ground water samples, soil borings (both those performed for this assessment and previously performed geotechnical borings) indicate that the dominant area of subsurface petroleum impacts exist in the region just west of Lane Avenue and about 50 feet or more east of North Avenue. The source area appears to be located just to the north of the former building on the Spates property. It is believed that the source may not be primarily associated with the removed UST cited above, but is more likely associated with a fuel oil UST previously used (and possibly still located) just north of the northeast section of the former buildings on this property.

The only likely environmental receptor in the vicinity of the site is Lake Memphremagog, 60 feet north of the site. No residences are located adjacent to the site. The nearest business to an area of elevated impact is about 150 feet to the west, with about 25 feet of overlying soil between the ground water surface and the building foundation. Drinking water for Newport is provided from a drilled well 0.8 miles southwest of the site. The proposed building represents the most likely possible receptor for impacts to humans from the underlying petroleum impacted soil and ground water, via the potential for infiltration of petroleum contaminated soil vapor into the building.

Recommendations for this site are to:

(A) apply to the ANR DEC WMD for an off-site soil treatment location for fuel oil impacted soils (properties 3, 5 and 8), use headspace screening to segregate soils in the UST excavations requiring treatment during building footprint excavation activities planned for the summer of this year (also including property 8, and possibly at the suspected second UST on property 3), polyencapsulate these soils at an off-site treatment location, and monitor these soils by headspace screening and subjective odor assessment every two months to document when conditions for on-site thin spreading have been reached

(B) install two (2) temporary monitoring wells, one at and one upgradient of the north central end of the former building on property 3 to characterize ground water contamination at the presumed source area and document upgradient ground water quality, respectively, and install one (1) permanent well on property 9 along the northern property line east of existing wells and west of Lane Avenue, one (1) permanent monitoring well near the north central end of the former building on property 11, and one (1) permanent well north of the property line (and railroad tracks) at property 9 to finish documenting the extent of petroleum impacts to ground water.

(C) collect water samples as soon as possible from new wells for volatile organic compound and for total petroleum hydrocarbon analysis and collect three additional rounds of ground water samples in April, July, and October 1998.

(D) begin discussions with the State Department of Buildings, retained architect and mechanical engineers, and State ANR DEC Waste Management Division to explore the possibility of installing horizontal soil vapor extraction lines as a preemptive measure to minimize the potential for infiltration of petroleum impacted soil vapors into the proposed building.

Table of Contents

Table of Contents (continued)

List of Figures

List of Tables

Appendices

Site Investigation at site of the proposed Emory A. Hebard State Office Building in Newport, Vermont (Site #96-2071)

1 Site location and use

The site of the proposed Emory A. Hebard State Office Building is located in the geographical center of the City of Newport, about 3/4 miles west of Derby, the nearest neighboring town. It is situated just north of Main Street (also serving as State Route 5), and is adjacent to the traditional city center area of Newport. It is located on 3.04 acres of land owned by the State of Vermont.

The site is located on a peninsula of land surrounded by Lake Memphremagog. The site ranges in elevation from about 710 to 687 feet above the 1929 National Geodetic Vertical Datum (NGVD), with surrounding land to the southwest reaching elevations of 950 feet. Site drainage is to the north into Lake Memphremagog. Lake levels range from 682.7 to 679.3 feet (Civil Engineering Associates, 1996). The Area Map (from USGS, 1986) shows the various features described above.

The site now consists primarily of open land and abandoned foundations, following demolition of all but one site buildings during December 1996; only the former Sanel's auto parts store at property 13 remains standing. The Level I (i.e. Phase I) Environmental Site Assessment for this site (Inchcape, 1996) fully describes the various historical uses of the properties (1 through 13 and 15 to 17) which were aggregrated to form the existing site); this document is found in Appendix A. Table 0 summarizes the previous owners and uses of these properties.

Municipal water is provided by an off-site drilled well located 0.8 miles southwest of the site. Site wastewater is disposed of via the municipal collection and treatment system. The Area Map and Site Map (from J. Graham Goldsmith, 1996) show the above described features.

Site soils have not yet been classified by the Natural Resources Conservation Service (NRCS, 1997). Numerous geotechnical and environmental borings show that site soils are characterized by brown fine silty sands, sometimes with medium and coarse sand and gravel, underlain by a silty clay; these boring logs are found in Appendices B and D, respectively. The clay layer appears to slope from west to east, and undulates from north to south. Clay can be found at elevations ranging from as high as 690 feet (15 feet below grade) in the southwest region of the site to 660 feet (35 feet below grade) along the central and eastern regions of the site. Approaching the lakeshore from the petroleum impacted area, clay is encountered at elevations of 675 to 665 feet or lower (about 12 to 20 feet or lower below grade). Previous investigations document that fill has been

brought into the lower lying properties near the lakeshore (Civil Engineering Associates, 1996).

2 Abutters

Abutters consist of primarily commercial properties to the west, south, and east, and the Newport Richford Railroad Company (formerly the Canadian Pacific Railway) property to the north. To the west is property used for retail space (Newbury's department store), with James W. Sines and William R. O'Dell as trustees, and property used for office space owned by Douglas and Vivian Spates. To the northwest is a residential building owned by Douglas and Vivian Spates. To the south (across Main Street) are retail properties owned by (from west to east): Frank's Steak House; Forty-One Main, Inc. (currently a pharmacy); Passumpsic Savings Bank; Peter Kelleway (currently a restaurant); and Chittenden Bank. To the east is commercial property owned by the U.S. (currently an office building), and further east is a service station owned by James Reed. Table 0 summarizes the owners, existing uses, and relative location of the abutting properties. The general surroundings are characterized by commercial activities to the east, south, and west, with a few residential properties to the northwest.

3 Petroleum Products and Hazardous Substances Activities

3.1 Regional Hazardous Waste Sites

The Level I (i.e. Phase I) environmental site assessment (Inchcape, 1996) reviews the six (6) hazardous waste sites within one half mile of the site. The conclusion rendered in that report, in that only the property owned by James Reed (noted in the Abutters section) used as a service station has the potential to impact the site, remains valid. The impact from this property to the site is in a different area (northeast) than the petroleum impacts discussed in this report (south central and to the north and west).

3.2 Site Petroleum Products and Hazardous Substances Use

3.2.1 Resource Conservation Recovery Act (RCRA) Generators

The Level I report discusses RCRA generators in the vicinity of the site. They consist of the above mentioned service station, Orlean County Printer (former occupant of Property 2, formerly owned by the Pomerleau family partnership), and Ray's Auto Service (former occupant of Property 9, formerly owned by Geoffrey). Review of RCRA files found that Orlean County Printer generated less than two pounds of ink and two gallons of solvent per year. A June 1988 RCRA inspection of Ray's Auto Service found that: one to one and a half 55 gallon drums of waste oil were generated annually (some of this oil used to fire a wood stove); waste solvent and old rags were disposed by a service contractor; "speedy dry" was disposed of as trash; and antifreeze had been dumped in the floor drain. During Inchcape's site visit, stained soil was evident on this property to the south of the

building, and hazardous substances and petroleum products associated with engine repair and maintenance were present.

3.2.2 Storage tanks

The previous locations of above ground storage tanks (for fuel oil or propane storage) and underground storage tanks (USTs, for fuel oil) on-site are outlined in Inchcape's Phase I assessment (Inchcape 1996). Figure 1 shows the location of the four USTs discussed in that report, along with maximum PID readings observed during tank removals in August and December 1996. A subsequent conversation with Mr. Douglas Spates, former owner of property 3, during January 1997 indicated the likely presence of a UST used for fuel oil storage just north of the northeast section of the former buildings on this property (Spates, 1997). This tank may still be in place. Figure 1 also shows the suspected location of this tank.

3.2.3 Spills and Releases

Two spills and releases of petroleum products were documented for the service station property previously cited (Inchcape, 1996). During Inchcape's site visit, stained soils were observed just outside and to the south of buildings on properties 7 and 9.

4 Soil Borings and Monitoring Wells

Soil borings and monitor well installation was completed by Green Mountain Boring of Barre, Vermont on 30 October to 6 November 1995, 1 to 10 July 1996, 14 October 1996, and 2 to3 January 1997. Boring logs and details of monitoring well construction are found in Appendices B and D. Borings during January 1997 were completed using 4.25 inch (") inner diameter by 5 foot (') augers. At specified depths, a standard 2" outer diameter, 1.625" inner diameter by 2' foot split spoon sampler was advanced two feet into the boring using a 140 pound hammer falling 2.5'. The sampler was retrieved and opened. The retained soils were measured for percent recovery, inspected for description (including texture, color, moisture, and odor), and headspace screened as appropriate.

Headspace screenings during January 1997 were conducted by placing soil samples into "zip-lock" plastic bags, sealing the bags, then placing them in a calm, room temperature environment. After the temperatures had stabilized, the soil in the bag was mixed, the bag was opened, and the headspace was screened with a portable Hnu PID equipped with a 10.2 eV lamp and calibrated using 100 ppm isobutylene to register as ppm benzene. Elevated readings were checked by re-sealing the bag, then repeating the above procedure.

Once the desired boring depth had been reached and depth to ground water was ascertained, a 5' length of PVC well screen (Schedule 40, 0.010 inch slot) with end cap and appropriate riser was placed into the open borehole at a depth to intercept the ground water surface, and also allow for some rise in the ground water surface. Filter sand was

placed around and above the well screen to form a sand pack. Pellet bentonite was used to seal the sand pack and well screen from surface infiltration. For flush mount wells, the riser was cut to 0.3' below grade, and a flush mount protective casing was cemented in place. At boring 12NE, natural soils were used for a sand pack, a filter sock was placed around the well screen, and solid PVC riser was used in place of a protective casing.

Borings showed that the majority of soils consisted of sandy soils with silt and gravel, and some detritus. Odors thought to be related to fermenting wood were encountered at some locations, as well as petroleum odors. The latter appeared to be of the "diesel" type, as opposed to a lighter "gasoline" type odor. Elevated PID readings were encountered in two borings (12NE and 9C) near the water table.

Wells were developed on the day of installation, using polyethylene tubing placed at the well bottom and routed through a peristaltic pump, until the purged water ran clear. The horizontal location of each installed well was determined by measuring distances (using cloth tape) from existing landmarks. The vertical elevation of the PVC riser at each installed well was determined using an automatic level and graduated rod, referencing a known elevation (in this case, the rim of a sanitary sewer manhole in Lane Avenue east of the southeast corner of property 11, elevation 691.3 feet).

5 Ground Water and Soil Sampling

Soil and ground water sampling was accomplished on 20 and 21 November 1996, and ground water sampling was conducted on 13 January 1997. Samples were submitted to ITS Environmental in Colchester, Vermont for volatile organic compound (VOC) analysis following either US EPA Method 8020 or 8260, and for total petroleum hydrocarbon (TPH) analysis following US EPA Method 418.1. The Analytical Reports are found in Appendix C for November 1996 sampling, and in Appendix E for January 1997 sampling. Results are summarized in Tables 1 and 2, respectively. The following is a description of the sampling techniques.

5.1 November 1996 Sampling

5.1.1 Ground Water Sampling

Ground water sampling was attempted at a number of sites on 20 and 21 November; two (2) samples were collected on 20 November 1996. Sampling was attempted by percussion driving 5/8 inch (") outer diameter by 2.5 feet (') long hollow stainless steel pre-cleaned sampling rods into the soil. The first rod was equipped with a pointed tip and slotted sampling section; the female threaded rods were flush joined by hollow, threaded male nipple sections. Once at the desired depth, a vacuum was drawn on the rods using a diaphragm vacuum pump. Ground water was drawn through the slotted sampling section, up through the hollow rods, through Teflon tubing, through a glass rod passing through a rubber stopper, and into a pre-cleaned glass Erlenmeyer flask. The initial ground water that passed through this sampling train was discarded, then

additional ground water was sampled as necessary to fill the appropriate sample containers (40 ml glass vials or one liter amber glass jars, both with hydrochloric acid for sample preservation). The sampling rods were removed using a manual jack. The rods were later cleaned with soap and tap water and rinsed with tap water; the slotted sampling section was cleaned with a razor blade and then similarly cleaned and rinsed.

The above technique was successful at obtaining a ground water sample from the Smith property (sample B7 at 8' below grade). At other locations, this technique was not successful, so an alternative technique was used. Soil sampling equipment described below was used to create a 3/4" open borehole. Filter sand was placed into the borehole to create a sand pack to filter out fines which were suspected of clogging the sample section at unsuccessfully sampled locations. The sampling section and rods were advanced through the sand to the desired sampling depth. This procedure was successful at obtaining a water sample at the Kibbee property (sample B8 at 8' below grade), but unsuccessful at obtaining a sample at the Geoffrey property (sample B9 at 7' below grade), or for deeper sampling at the Smith property (sample B7 at 11.5' below grade). At sample locations B7 and B9, soil samples were obtained in lieu of water samples to ascertain contamination levels beneath the ground water surface.

Five attempts at obtaining samples at locations north of the buildings on the Smith and Kibbee properties, and one attempt each just east of the northeast and southeast corners of the building on the Kibbee property, were unsuccessful due to refusal of the sample section to advance past a depth of about 2.5' below grade. It was later learned that this refusal probably represented foundation material associated with old railroad coal sheds located on these properties prior to the most recent structures.

5.1.2 **Soil Sampling**

Soil sampling was conducted at nine locations on both 20 and 21 November 1996. The majority of samples were collected by percussion driving 3/4" outer diameter new or pre-cleaned hollow black iron pipe into the soil to the desired depth. The pipe was removed using a manual jack. The soil was vibrated out into a "zip-lock" plastic bag, mixed, then placed into 40 ml glass vials. For sampling depths greater than 5', a longer section of pipe was placed into the open sampling hole and driven to the desired sampling depth. At locations B7, 10' and B9, 7', only the initial half foot or so of soil vibrated out of the sample pipe was submitted to the laboratory for analysis. Soil at properties 12 and 11 (sample locations 12W and 12S, and 11W and 11E, respectively) were brown fine and medium sands. Soil at B7, 10' was brown medium sand with silt and clay. Re-used rods were cleaned with soap and tap water and rinsed with tap water.

At location B7 surface and B9, 0-1', a shovel and trowel were used to obtain soil for laboratory analysis. At location B7 surface, a thin layer of stained soil (medium sand with gravel) rested on top of an underlying stone or concrete layer. At location B9, 0-1', sandy soils were stained down to a depth of about 1' below grade.

5.1.3 Soil assessment for #2 fuel oil UST removal at property 5 (former Wilder)

A 550 gallon underground storage tank (UST) was removed from just south of the building on property 5 (former Wilder) on the late morning of 21 November 1996. Backhoe excavation was performed by a Newport employee. Soils surrounding the UST were brown fine sands. No odor or staining was observed for soils underneath the tank. Three soil samples (from western, central, and eastern areas just underneath the tank, about 6' below grade) were put into "zip-lock" plastic bags for headspace screening.

Screening was performed using a portable Hnu Model PI 101 photo-ionization detector (PID) equipped with a 10.2 eV lamp. This instrument was calibrated with 100 ppm isobutylene gas to register readings as benzene in ppm. Sampled soils were placed into a room temperature, calm environment to stabilize sample temperature. Once the samples had equilibrated, each sample bag was opened and the sampling end of the PID was quickly inserted into the bag to assay the headspace vapors. All samples had readings at background levels (0.6 ppm).

5.2 January 1997 Ground Water Sampling

Seven wells were sampled on 13 January 1997. Prior to sampling monitoring wells, the depth to water and depth to the bottom of each well was determined. Known impacted wells were checked for floating petroleum product using a clear bailer. Three volumes of standing water from monitoring wells were purged using dedicated string and 1.5" outside diameter PVC bailers. After the wells had recovered, the bailers were used to collect water to pour into the appropriate hydrochloric acid preserved containers (40 milliliter vials or one liter glass jars). Water temperature and specific conductance were also measured.

6 Discussion

6.1 Contaminant Identification

Contaminants found at the site through laboratory analysis include BTEX (benzene, toluene, ethylbenzene, and xylenes) compounds associated with petroleum fuels, ketones (acetone and 2-butanone, the latter also known as methyl ethyl ketone), trimethylbenzenes (1,2,4- and 1,3,5 -, both present in petroleum fuels), and naphthalene (also present in petroleum fuels). Ketone compounds are often associated with laboratory contamination (as was found in this case for acetone), and the detected levels do not indicate a concern for this site. A few other compounds were tentatively detected at individual locations (e.g. carbon tetrachloride, tetrachloroethene, and 1,2-dichlorobenzene in ground water at B7, 7' and p-isopropyltoluene in soil at B9, 0-1'), but these compounds were at relatively low concentrations (i.e. below method reporting limit concentrations). All detected compounds in ground water samples were below applicable Vermont Ground Water Enforcement Standards or Health Advisory Levels as listed in Tables 1 and 2. Neither specific conductance or temperature measured in

January 1997 showed a strong correlation with contaminant levels. Soil TPH concentrations for November 1996 sampling are shown on Figure 2; ground water elevations and TPH concentrations for January 1997 sampling are shown on Figure 3.

The detected levels of BTEX compounds in soil samples are relatively low, but the total petroleum hydrocarbon (TPH) results at surface locations at property 7 (former Smith, sample B7) and property 9 (former Geoffrey, sample B9) sample locations indicate significantly elevated TPH concentrations. The presence of elevated TPH without associated BTEX compounds suggests that any petroleum releases are either old and weathered (i.e. without the more volatile fraction), or consisted of heavier petroleum compounds (i.e. fuel oils or lubricants). The detectable concentrations of TPH in deeper soils at B9, as compared to B7, indicate a greater potential for ground water contamination at property 9 as compared to property 7.

Trimethylbenzenes were detected on property 9 at both surface and deeper soil locations. Naphthalene was detected in soil at both property 7 and 9, albeit at relatively low concentrations (i.e. below the method reporting limit, with some presence of this compound in the method blank). These compounds indicate the possible presence of other heavier weight organic compounds most likely associated with heavier weight petroleum products such as fuel oil. The latter observation agrees with that suggested by the elevated soil and ground water TPH concentrations at these properties.

6.2 **Contaminant Distribution**

6.2.1 **Property 3** (former Spates)

The boring at the former location of a fuel oil UST at this property did not contain PID headspace screenings above 1 ppm until a depth of 13 to 15 feet below grade. Readings increased from 1.3 ppm at that depth interval to 4.0 ppm at 17 to 19 feet below grade, at which point it appeared that ground water was encountered. The latter observation was confirmed by a depth to ground water below grade of some 12 feet in nearby well 12NE. The odor from the samples that had measurable headspace readings had an odor more like a burnt smell (burnt wood?) than a petroleum odor. The boring conducted at location 12NW on property 12 (former Cheney), presumably downgradient of the Spates boring, did not have any PID headspace readings above 1 ppm.

These observations can be compared to both the previous geotechnical boring B-3 at the northeast corner of the property, where a strong petroleum odor was encountered at 20 to 22 feet below grade, and the presumably downgradient (to boring B-3) monitoring well 12NE, where a PID reading of 90 ppm was observed from soils at 15 to 17 feet below grade. The suspected presence, historical or possibly still existing, of a fuel oil UST located north of the northeast section of the former buildings on property 3 suggests that the majority of petroleum impacts from this property stem from the northeast section of the property, compared to the northwest section of the property. The suspected location

of this second UST on the Spates property, along with relevant observations from the geotechnical borings, is found on Figure 1.

6.2.2 **Property 5** (former Wilder)

The boring at the former location of a fuel oil UST at this property did not have any PID headspace readings above 1 ppm down to a depth of 32 feet below grade, at which point it appeared that ground water was encountered. The latter observation was confirmed by a depth to ground water below grade of some 30 feet in nearby well B-2. The TPH observed in well B-2, 0.46 mg/l, was just above the reporting limit of 0.4 mg/l. It appears that any release from this UST was limited and contained in the upper soil layers.

6.2.3 **Property 8** (former Kibbee)

Wells 8W and 8C, downgradient of the former fuel oil UST at this property, contained MTBE but no BTEX compounds; the MTBE concentrations were below the Vermont Health Advisory Level. However, all ground water samples contained detectable amounts of TPH, with the highest concentration at well 8E. The TPH observed in the ground water sample from location B8 during November 1996 sampling (0.75 mg/l) does not agree with higher levels observed in downgradient wells 8W, 8C, or 8E during January 1997 (3.5 to 8.8 mg/l). This is most likely because ground water was sampled at a greater depth at B8 (8') compared to the monitoring wells (3 to 8'). The low BTEX concentrations in sampled ground water at property 8 (B8, and wells 8W, 8C, and 8E), coupled with the absence of elevated PID readings during monitoring well installations, suggest that the impacted soils causing a visual sheen on infiltrating ground water noted during the UST excavation at this property are limited in extent. The elevated TPH concentrations in wells 8W, 8C, and 8E may also be a result of upgradient sources (i.e. property 3).

6.2.4 **Proposed Building Footprint Excavated Soils**

No BTEX compounds were detected in soil samples from the higher lying property 12 (former Cheney) and property 11 (former Isabelle) within the proposed building footprint. In addition, laboratory headspace screening using a gas chromatograph indicated that no other VOCs were present in these samples. These observations indicate that any on-site, significant soil contamination within the proposed building footprint is localized, and associated with specific sources of petroleum product releases (i.e. the USTs at properties 3 and 5). Higher TPH concentrations were observed in property 12 compared to property 11 samples.

Petroleum odors were observed in geotechnical borings in the center of property 12 (B-4, with petroleum odor at 15 to 17 and 20 to 22 feet below grade), and at the northwest corner of property 11 (B-5 and S-3, with petroleum odor at 5 to 7 and 10 to 12 feet, and 4 to 8 feet below grade, respectively). This data, coupled with other observations, suggest that the most likely explanation for petroleum odors observed at the ground water surface

in borings on property 3, 12, and 11 is from a petroleum release at property 3, as compared to a release from property 5.

6.2.5 **Sitewide**

Geotechnical and monitoring well installation borings found obvious petroleum impacted soils at the following locations, listed from upgradient to downgradient locations: B-3, 12NE, B-4, B-5, S-3, and 9W. PID readings reached 90 ppm at 12NE, and 65 ppm at 9W. Both latter locations had odors characteristic of heavier petroleum fuels (e.g. diesel or fuel oil) as compared to gasoline. Noticeable in the absence of petroleum odors were borings east of the above cited impacted borings, these being locations S-1A, S-2A, and S-3A on the western leg of Lane Avenue. These apparently unimpacted borings were both upgradient (S-1A) and either downgradient or crossgradient of the above cited impacted locations. Also noticeable in the absence of petroleum odors were borings west of the above cited impacted borings, these being locations B-1, B-2, and S-2, S-10A, S-13A, and S-13B (the latter four borings clustered along the boundary line separating properties 8 and 9). These borings were both upgradient (B-1) and downgradient or crossgradient of the above cited impacted borings.

6.3 **Contaminant Transport**

Ground water flow appears to flow to the northwest, the westerly component based on the steadily decreasing ground water elevations from east to west for the "9" and "8" series wells, respectively. The lowest observed ground water elevation, 681.18 feet at well B-2 during January 1997, was likely due to the 20 foot screen for this well primarily intercepting the silty clay layer, which lies underneath the surficial silty sand layer intercepted by the 5 foot well screens at the remaining wells. A representative horizontal hydraulic gradient of 0.0025 was observed between upgradient (12NE) to downgradient (9C) wells. A porosity of 0.3 would be reasonable for the site's silty sands. Using a range of likely hydraulic conductivity (0.3 to 30 feet per day), possible ground water velocity (equal to the product of hydraulic conductivity and gradient divided by porosity) can range from 0.0025 to 0.25 feet per day.

6.4 **Receptor analysis**

Petroleum impacted soil and ground water exists on-site. The most likely existing potential environmental receptor is Lake Memphremagog, located 60 feet north of the northern property lines at properties 7, 8, and 9. For ground water to travel the approximate 300 feet from the most upgradient petroleum impacted area and discharge via seepage into the lake, the required time ranges from about 3.3 to 330 years based on the above estimates of ground water velocities. Given the long use of petroleum products at this site, it is possible that released petroleum products at the most upgradient suspected source location would have had sufficient time to reach the lake, in addition to the observed impacted downgradient ground water (e.g. well 9C).

The off-site public water supply drilled well is located 0.8 miles to the southwest. The Wellhead Protection Plan for this well indicates that because of clay barriers, there is almost no possibility that this well has been impacted from the observed petroleum impacts (Newport, 1997). The nearest buildings in the vicinity of the impacted area are Newbury's department store and the Spates' owned office building, each about 150 feet to the west, and the U.S. owned office building, about 180 feet to the east. The U.S. owned office building is also located about 80 feet to the west of an adjacent service station, a State hazardous waste site which has been discussed earlier. The nearest residence is located about 200 feet to the west, on higher ground (elevation of about 720 feet, compared to the ground water associated petroleum impacts at an elevation of about 683 feet or less).

The proposed footprint for the State office building is found on Figure 1. The proposed building will require excavation down to an elevation of about 688 feet for placement of a concrete slab floor, compared to a petroleum impacted ground water elevation of about 683 feet. Thus, the proposed building represents the most likely possible receptor for impacts to humans from the underlying petroleum impacted soil and ground water, via the potential for infiltration of petroleum contaminated soil vapor into the building.

7 Conclusions and Recommendations

(1) The majority of on-site contamination appears to stem from fuel oil release(s) from property 3 (former Spates), most likely near the northeastern portion of this property. Contamination is associated with the ground water surface, which is typically encountered at an elevation of about 683 feet. The majority of contamination appears to be located well east of North Avenue, and just west of the west leg of Lane Avenue, in a southeast to northwest orientation extending to the northern boundary of the site. Ground water appears to flow in a northwesterly direction.

(2) At properties 3, 5, and 8, previously observed petroleum impacted soil and ground water (the latter at property 8 only) in UST excavations appear limited in extent. Excavation of the impacted soils followed by off-site polyencapsulation should be a viable treatment alternative.

(3) Likely potential receptors include Lake Memphremagog located 60 feet to the north of the site (via petroleum contaminated ground water seepage), and the proposed State Office Building (via petroleum contaminated soil vapor infiltration).

Recommendations for further work at this site are

(A) Apply to the ANR DEC WMD for an off-site soil treatment location for fuel oil impacted soils at properties 3, 5 and 8.

(B) use headspace screening to segregate soils in the former UST excavations requiring treatment during building footprint excavation activities planned for the

summer of 1997, also including excavation at property 8 and possibly at the suspected second UST at property 3.

(C) polyencapsulate these soils at the off-site treatment location, and monitor these soils by headspace screening and subjective odor assessment every two months to document when conditions for off-site thin spreading have been reached.

(D) Install two (2) temporary monitoring wells, one upgradient of and at the north central end of the former building on the Spates property. The upgradient well will confirm the upstream extent of the contamination, and that no other upgradient source is responsible for on-site petroleum impacts observed to date. The other well will confirm the suspected source area. Continuous sampling should be employed at the suspected source area well. Soil description, headspace screening, well construction, well development, and well location techniques should be performed in a similar fashion to that described in this report, except that no protective well guard should be installed.

(E) Install one (1) permanent monitoring well near the north central end of the former building on property 11, one (1) permanent monitoring well on property 9 along the northern property line east of existing wells and west of Lane Avenue, and one (1) permanent monitoring well north of the property line at property 9. The well at property 11 will help to define the distribution of petroleum impacted soils and ground water at the site, and help in determining the potential for impacts to the proposed building. The well at property 9 will help to complete the distribution of significant petroleum impacts to the east, since the geotechnical boring S-3A at Lane Avenue did not encounter any significant petroleum contamination 60 feet east of that observed in well 9C. The well north of property 9 will confirm the likely presence of off-site impacts, and help to estimate potential impacts to the lake. During installation of these wells, continuous sampling, beginning at two (2) feet below grade and terminating at eight (8) feet below grade, should be completed. Other field techniques should follow those cited above.

(F) Collect water samples as soon as possible from new wells and from well 9C. Samples should be analyzed for VOCs by Method 8020 and for total petroleum hydrocarbon content by Method 418.1. Instead of 8020 analysis, ground water samples from two wells with particularly elevated TPH content (e.g. 9C and the proposed source area well on property 3) should be analyzed for fuel oil fingerprint by Method 8015, and for the full spectrum of VOCs by Method 826. The fuel oil fingerprint will likely confirm that the on-site contamination is due to fuel oil release. The 8260 method will either likely confirm the observed absence of substantial quantities of VOCs, or possibly indicate that 8260 analysis (or 8021) is preferable to 8020 analysis for continued VOC monitoring at this site. The 8260 analysis should also be substituted for the 8020 analysis at the well proposed for installation north of property 9. Sampling techniques should be similar to that already described in this report.

(G) Begin discussions with the State Department of Buildings, retained architect and mechanical engineers, and State ANR DEC Waste Management Division to explore

the possibility of installing horizontal soil vapor extraction lines as a preemptive measure to minimize the potential for infiltration of petroleum impacted soil vapors into the proposed building. These lines could be placed at a nominal cost, and not used if significant amounts of impacted vapors are not observed. If a vacuum is applied to these lines and if the resulting soil vapor requires treatment prior to discharge, the most likely independent treatment system would consist of vapor phase activated carbon, particularly when treating a relatively non-combustible source such as weathered fuel oil. Alternatively, the soil vapor from these lines could be vacuum extracted and discharged into the air inlet of the appropriate building furnace unit for destruction whenever the furnace unit is in operation.

(H) Collect three additional rounds of water samples in April, July and October 1998. Depending on the laboratory results from any additional wells, or the continued absence of substantial concentrations of VOC compounds, future site ground water monitoring may be limited to TPH analysis. Depending on the data obtained from the proposed well north of property 9, the collection of surface water and sediment samples at the lake shoreline may be warranted.

8.0 References

Civil Engineering Associates, Inc.. 1996. Revisions and Update Phase II Geotechnical Investigation 24 October 1996. Shelburne, Vermont.

J. Graham Goldsmith, Architects, P.C. 1996. Drawing SB/SP 1, 8-01-96. Burlington, Vermont.

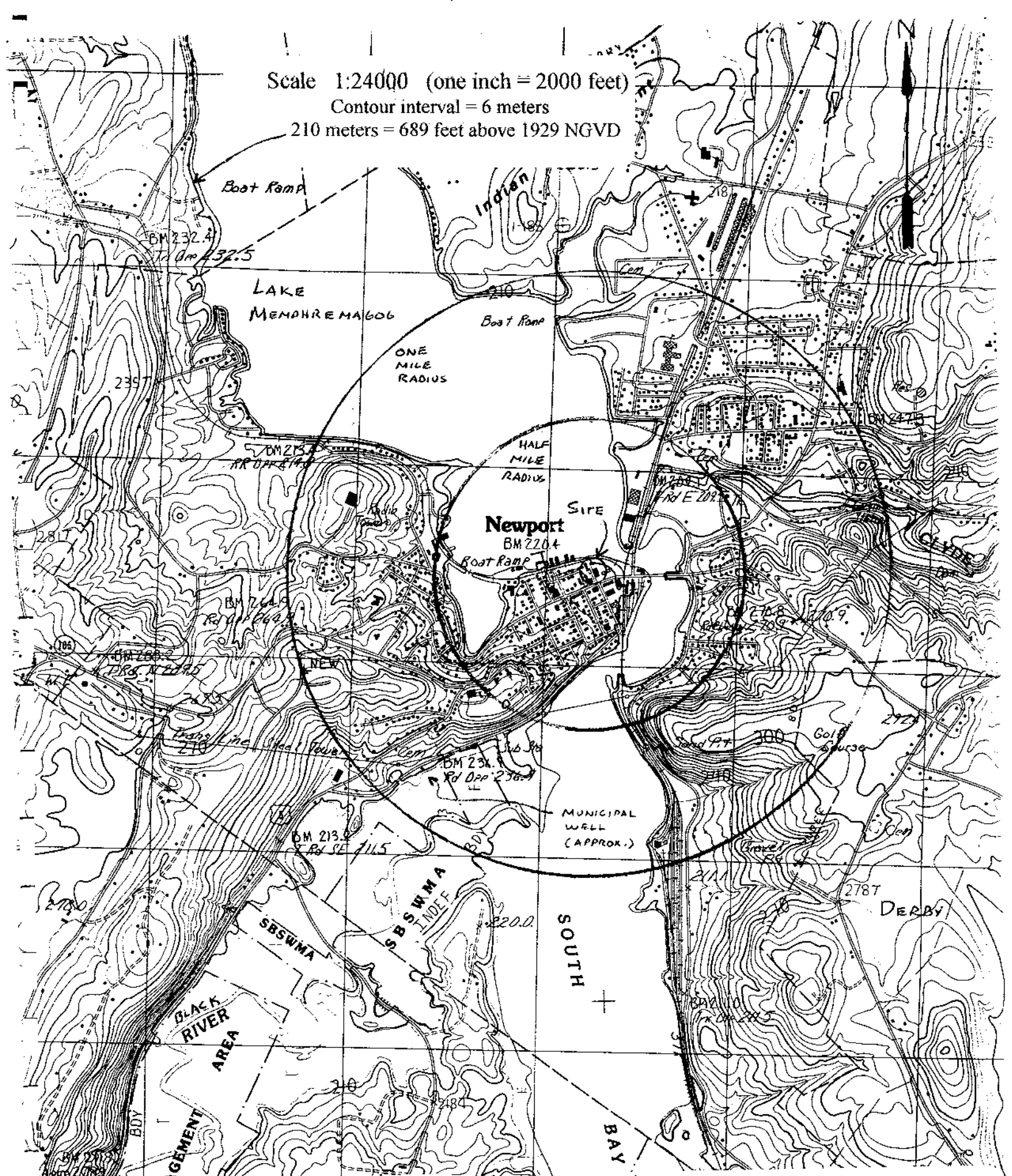
Inchcape Testing Services. 1996. Level I Environmental Site Assessment of The State of Vermont State Building Project Newport, Vermont July 1996. Colchester, Vermont.

Natural Resources Conservation Service. 1997. Personal communication with office staff on 8 Jan. 1997. Newport, Vermont.

Newport. 1997. Conversation with Public Works employee on 4 Feb.1997.

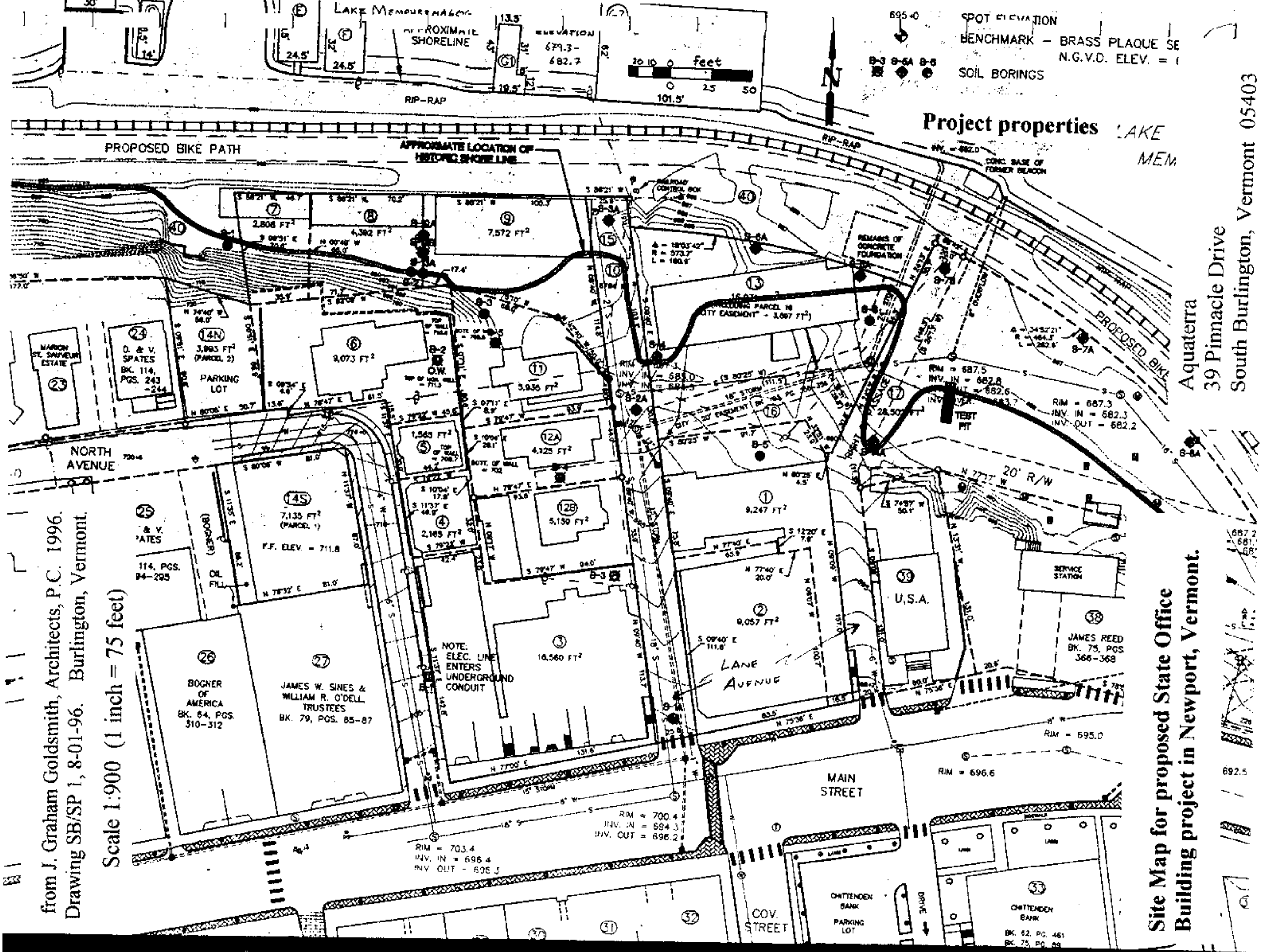
Spates, Douglas. 1997. Conversations with Douglas Spates on 13 Jan. 1997 and with Peter (Spates' employee) on 15 January 1997. Newport, VT.

US Geological Survey. 1986. 7.5' Quadrangle Newport, Vermont.



Area Map for proposed State Office Building project in Newport, VT (from USGS 7.5' Quadrangle Newport, VT 1986).

Aquaterra
39 Pinnacle Drive
South Burlington, Vermont 05403



from J. Graham Goldsmith, Architects, P.C. 1996.
Drawing SB/SP 1, 8-01-96. Burlington, Vermont.
Scale 1:900 (1 inch = 75 feet)

Site Map for proposed State Office Building project in Newport, Vermont.

Aquaterra
39 Pinnacle Drive
South Burlington, Vermont 05403

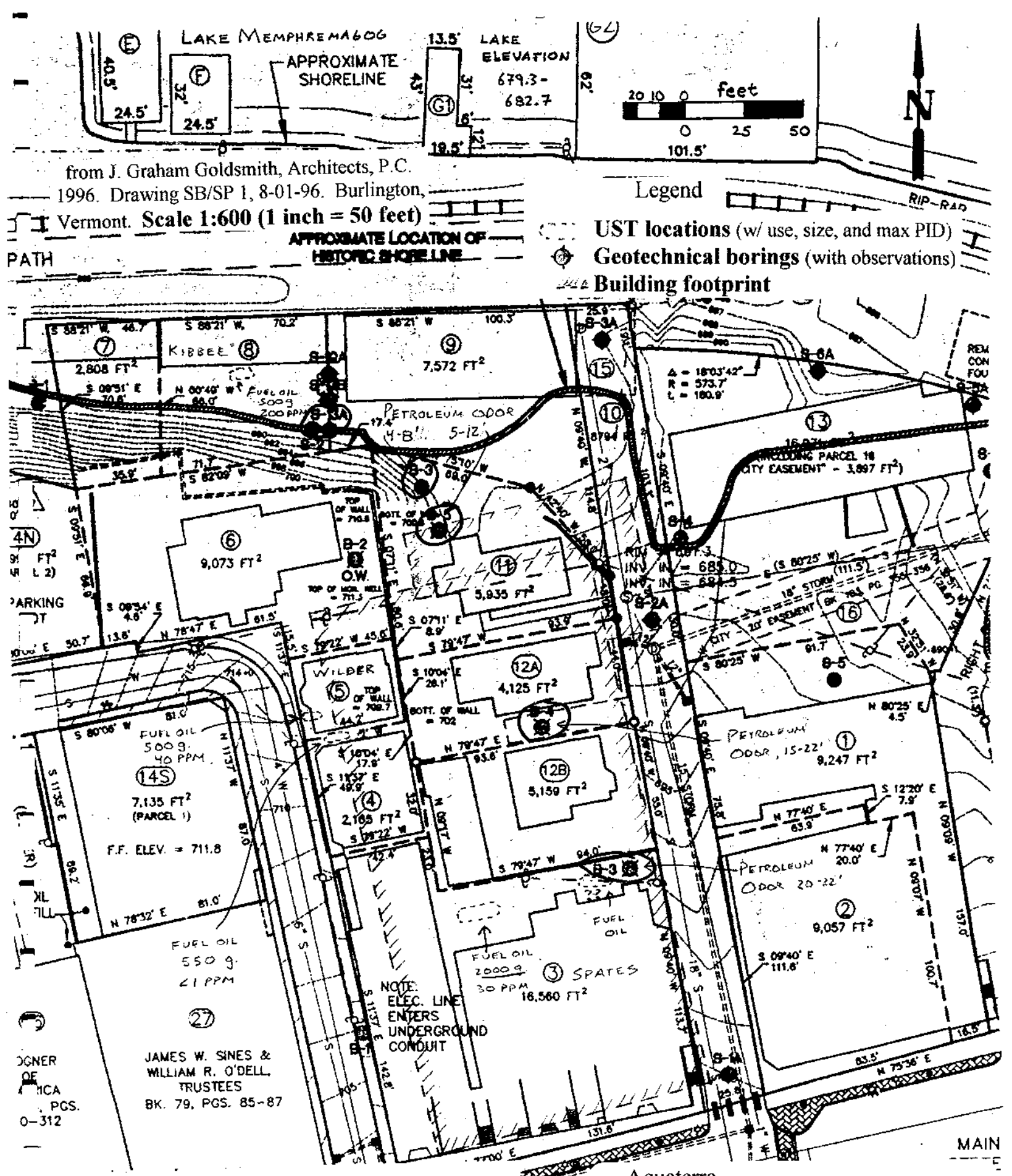
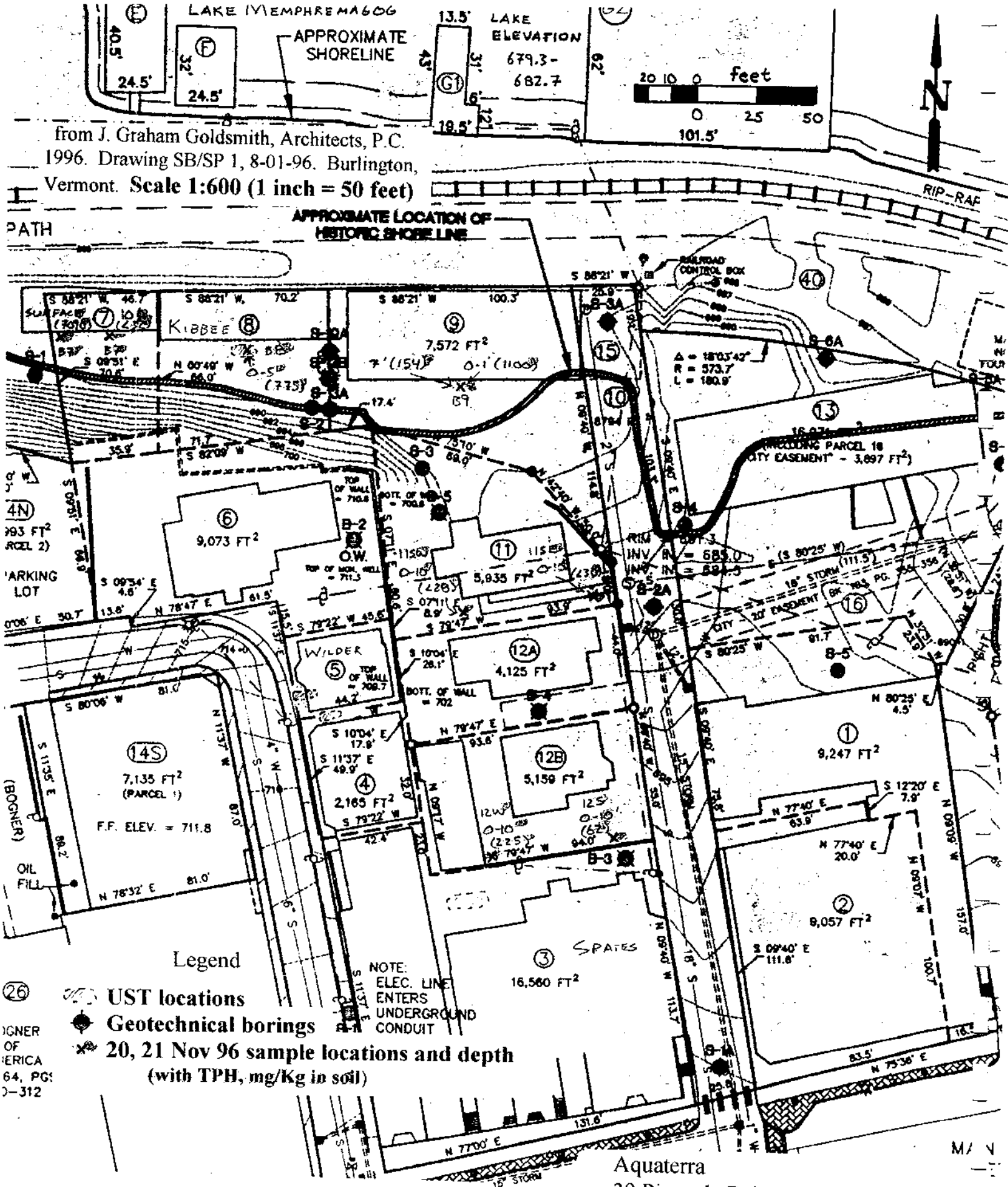


Figure 1 UST locations, geotechnical boring observations, and building footprint at the State Office Building site in Newport, VT.

Aquaterra
39 Pinnacle Drive
South Burlington, Vermont 05403



from J. Graham Goldsmith, Architects, P.C. 1996. Drawing SB/SP 1, 8-01-96. Burlington, Vermont. **Scale 1:600 (1 inch = 50 feet)**

Figure 2 November 1996 sampling at the State Office Building site in Newport, VT.

Aquaterra
39 Pinnacle Drive
South Burlington, Vermont 05403

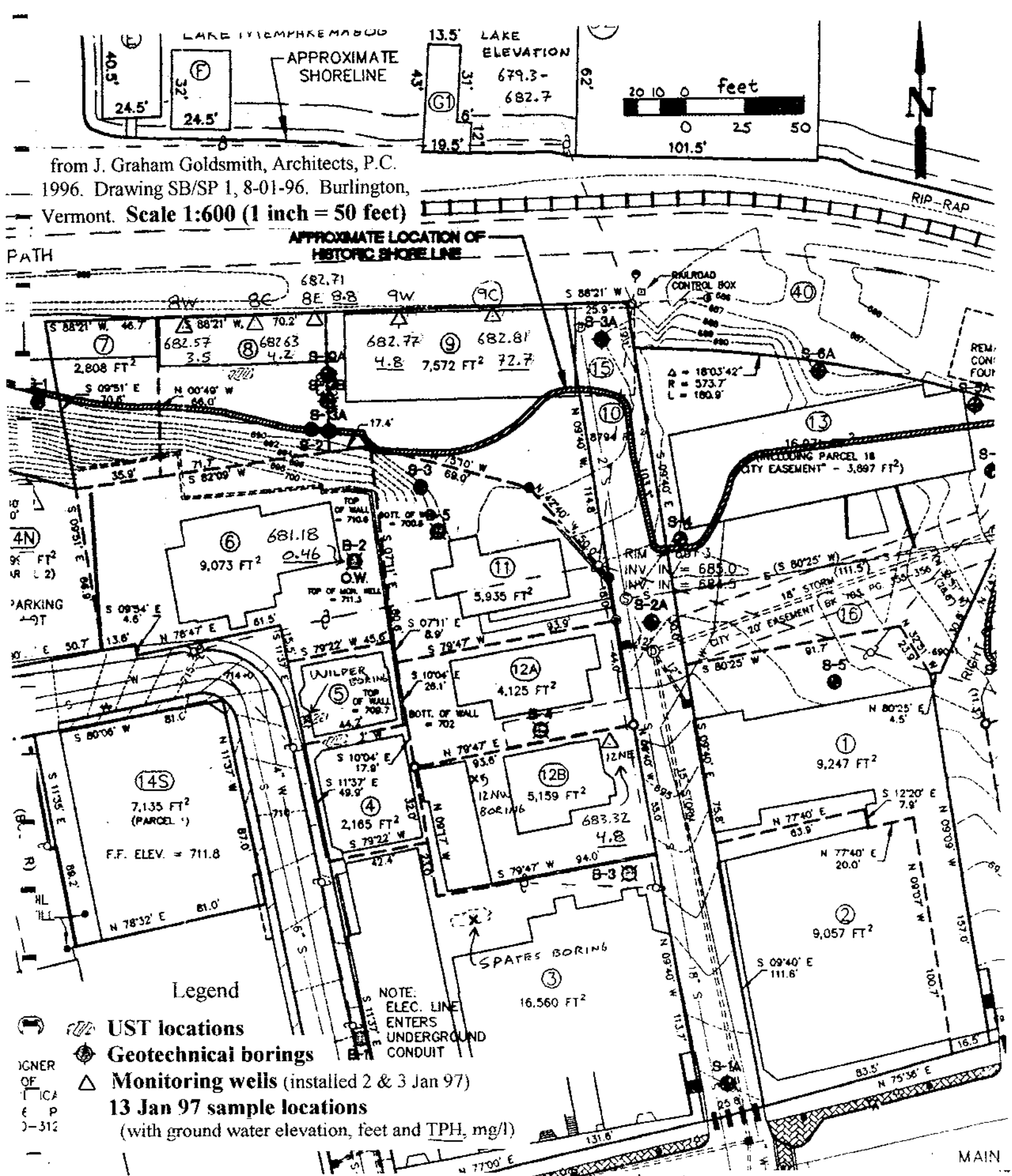


Figure 3 January 1997 sampling at the State Office Building site in Newport, VT.

Aquaterra
39 Pinnacle Drive
South Burlington, Vermont 05403

Table 0 Former property owners and current abutters at State Building Project in Newport, VT.

Phase I *

Prop. no.	Former owners	Use Existing	Recent, prior
1	Humphrey	vacant	theater, bank, retail
2	Pomerleau Family Partner	vacant	office, printing, Woolworth's, bus term., theater
3	Spates, D. and V.	vacant	various retail, hotel, pub, barber, drug store
4	Hilliker, R.	vacant	residential, salon
5	Wilder, H.	vacant	residential
6	Blais, A.	vacant	residential
7	Smith, L. G.	vacant	engine repair, storage, coal shed
8	Kibbee, G.	vacant	engine repair, storage, lime kiln, coal shed
9	Geoffrey, R. and S.	vacant	auto rep., taxidermy, retail, storage, +
10	Iron Road	roadway	roadway
11	Isabelle, J.M. and M.P.	vacant	residential, carpentry shop
12	Cheney	vacant	residential, storage, printing
13	Sanel	proj office	retail, auto repair, vet, hotel
15	Russell, J.	roadway	roadway
16	City of Newport	roadway	roadway
17	City of Newport	vacant	printing/vulcanizing, storage, auto garage

Current abutters

Prop. no.	Owners	Existing Use	Location relative to project site, and to apparent ground water flow direction
14	Spates, D. and V.	offices	west, cross-gradient
27	Sines, J.W. and O'Dell	retail	southwest, upgradient
28	Frank's Steak House	restaurant	south, upgradient
29	Forty-One Main, Inc.	pharmacy	south, upgradient
30	Passumpsic Savings	bank	south, upgradient
31	Passumpsic Savings	bank	south, upgradient
32	Kelleway, P.	restaurant	south, upgradient
33	Chittenden Trust	bank	south, upgradient
37	City of Newport	vacant	east, crossgradient
38	Reed, J. R.	serv station	east, upgradient
39	United States (U.S.)	offices	southeast, upgradient
40	Newport Richford Railroad	railway	**north, downgradient**

Notes: * Phase I properties make up building site
+ also scrap dealer, iron works, and coal shed

Table 1 **Summary of analytical data for soil and ground water sampling on 20 and 21 November 1996 at State Building Project in Newport, VT.**

Sample identification	B7	B7	B7	B8	B8	B9	B9	11 SE	11 SW	12W	12S	GWES or
Sample depth	surface	8'	10'	0-5'	8'	0-1'	7'	0-10'	0-10'	0-10'	0-10'	VHA $
Sample type	soil	**water**	soil	soil	**water**	soil	soil	soil	soil	soil	soil	**water**
Analysis *												
TPH, ppm	7090		<32	775	0.75	1100	154	<30	<28	225	62	
BTEX by 8020				yes	yes			yes	yes	yes	yes	
VOCs by 8260	yes	yes	yes			yes	yes					
Compounds, ppb #												
Benzene				1 J, 0.9 J								5
Toluene				3 J, 2J								680
Ethylbenzene		0.81 J		2 J, 1 J	0.36 J							2420
total Xylenes		9.8		10, 5 J	0.92 J	6, <6						400
Acetone	26 B, 71 B	15				38 B, 5 J	80 B					700
2-Butanone (aka MEK)							18					170
Carbon tetrachloride		0.60 J										5
Tetrachloroethene		0.52 J										0.7
1,2,4-Trimethylbenzene						12, 2 J	6					5
1,3,5-Trimethylbenzene						33, 21	3 J					4
p-Isopropyltoluene						<5, 5 J						?
1,2-Dichlorobenzene		0.86 J										75
Naphthalene	4 J, 3 JB					6 B, 3 J	22 B					20

Notes:

* Soil concentrations in mg/Kg (i.e ppm) for TPH and ug/Kg (i.e ppb) for BTEX or VOC; water concentrations in mg/l and ug/l.

\# Listed compounds and concentrations are only those that were detected; two values (i.e. 33, 21) indicate a repeat analysis.

J = Indicates an estimated quantitation value below reporting limit.

B = The reported compound was detected in the associated method blamk as well as the sample.

$ GWES = Primary Ground Water Enforcement Standard (July 1988); VHA = Health Advisory Level (March 1996)

Table 2 **Field and analytical data for water sampling at State Building Project in Newport, VT.**

13 January 1997

Samp ID	Depth to surf. feet	Surf. elev. feet	3 x Stand. vol. liter	Purge vol. liter	Temp. deg C	Spec. cond. uS	Volatile Organic Compounds by 8020 Benzene ug/l	Total Xylenes ug/l	Ethyl benzene ug/l	Toluene ug/l	MTBE ug/l	Total pet. hydro. mg/l
Wells												
B-2	30.12	681.18	28	15; dry	9.9	1450	<0.5	<0.5	<0.5	<0.5	<0.5	0.46
12NE	12.47	683.32	4.7	1.8; dry	7.8	820	<7.5	67	12	<7.5	<7.5	4.8
8W	3.53	682.57	8.3	10	4.7	1010	<0.5	<0.5	<0.5	<0.5	17	3.5
8C	4.19	682.63	7.1	10	4.6	770	<0.5	<0.5	<0.5	<0.5	8.4	4.2
8E	3.57	682.71	8.2	10	4.8	640	<0.5	<0.5	<0.5	<0.5	<0.5	8.8
9W	3.49	682.77	8.4	10	5.8	810	<0.5	<0.5	<0.5	<0.5	<0.5	4.8
9C	3.88	682.81	7.6	10	6.1	1750	<2.5	9.0	<2.5	<2.5	<2.5	72.7
Standard							5	400	680	2420	40	none

Notes: Surf. = Water surface, elev. = elevation, Stand. = standing water in well, vol. = volume, Temp. = Temperature
Spec. cond. = Specific conductance, MTBE = Methyl tertiary butyl ether,
Tot. pet. hydro. = Total petroleum hydrocarbons by 418.1 (reporting limit = 0.4 mg/l)

Appendix A:
Level I Environmental Site Assessment of The State of Vermont
State Building Project Newport, Vermont July 1996

Level I Environmental Site Assessment
of
The State of Vermont
State Buildings Project
Newport, Vermont

Prepared for:
The State of Vermont
Department of State Buildings
2 Governor Aiken Avenue
Montpelier, Vermont

Prepared by:
Inchcape Testing Services
Environmental Laboratories
55 South Park Drive
Colchester, Vermont

July 1996

Project Number 96028

Table of Contents

List of Figures

List of Tables

1.0 OBJECTIVE

Inchcape Testing Services, Environmental Laboratories (Inchcape) was retained by the State of Vermont, Department of State Buildings to conduct a Level I (aka Phase I) Environmental Site Assessment of multiple properties located in the City of Newport, Vermont. This investigation was conducted to evaluate the possibility of subsurface contamination and other potential environmental problems at the site. All the structures at the site are scheduled for demolition.

2.0 INTRODUCTION

The properties are located in the center of the City of Newport, Vermont, which is situated in the northeast section of Vermont on the south shore of Lake Memphremagog (Figure 1). The surrounding communities include Newport Center, Coventry and Derby. The site is the proposed location for a new State office complex. The project is divided into two phases, with eighteen (18) properties in the Phase I portion, and eight (8) waterfront properties in the Phase II portion. Figure 2 shows the divisions of the properties, and Table 1 has a summary of the general description, use and ownership of each property. The main portion of Phase I incorporates properties between Main Street and Lake Memphremagog from North Avenue east to the railroad tracks, with one additional property located west of the aforementioned properties at the end of Field Avenue. Phase II is a strip of properties along the waterfront, which abuts and connects both portions of the Phase I properties. The sites are a combination of commercial and residential properties. The Phase I properties have nine (9) commercial buildings and six (6) residential buildings. The Phase II portion is on the waterfront and does not have a significant amount of land, but has eight (8) boat houses which are accessible from the shore.

2.1 Site Layout

The Site is located at an elevation of approximately 700 feet above mean sea level (amsl) along Main Street and drops to an elevation of approximately 680 feet amsl at the waterfront. The major drainage feature for the area is Lake Memphremagog. Drainage for the area is to the north and controlled by storm drains which discharge into Lake Memphremagog at the east end of the Phase II property.

A review of available geological publication of the area suggest the site is underlain by lacustrine silts and clays. The eastern portion of Phase I and all of Phase II has up to sixteen feet of fill material. A review of soil borings found that fill material was present to depth of sixteen feet and that native materials were fine sands, silts and clay. Depth to bedrock was not determined as part of this site assessment.

2.2 Site History

History of the Site was obtained from discussions: with Mr. Ken Magoon the Town Manager, and Mr. Bill Fyfe, a State House of Representative (Farley,1996a); Mr. John Ostrum, Department of State Building (Farley 1995b); review of topographic maps, Sanborn Fire Insurance Maps, aerial photographs and orthophotographs on file at the University of Vermont; and review of records at the City of Newport Offices.

Development of this area began in the mid to late 1800's. The 1885 Sanborn Map showed the area developed with commercial and residential buildings. At this time, the area known as the City of Newport was part of the Town of Newport and the Town of Derby. The City of Newport was charted in 1918.

Inchcape did not conduct a deed research for each property. Inchcape did not access the buildings on Properties No. 8, 11, 12 and 12A. The history of the properties with buildings was completed using the aforementioned sources and is summarized below. The State is having an historical survey of the site conducted, which gives a more detailed history of ownership and business.

2.2.1 Phase I Properties

Property No. 1: This property is located at 16 Main Street on the north side and is an old movie theater. It is an L shaped two-story building with an entrance adjoining the east wall of the building located on Property No. 2. The main theater is located north of the Property No. 2 building. The theater was present on the 1958 and 1925 Sanborn Maps. The 1919 Sanborn map shows a different building, which occupied Properties No. 1 & 2, and was labeled the Lane Block. This building was present back to 1895 and its tenants included, but not limited to, the Opera House, a bank, a clothing store, a grocery store, and a tailor. The 1889 and 1885 maps show no building, but a park on Properties No. 1 and 2.

Property No. 2: This property is located at 18, 20, 22 and 24 Main Street on the north side. The property has a commercial building on it, and has appeared to have always been commercial. The only tenant currently on site is the State of Vermont, Department of Social Welfare. The Sanborn maps showed a building on the site back to 1895. The tenants were described above in property No. 1. On the 1889 map the site was a park, and on the 1885 map an underground storage tank (UST) for gasoline was noted on the site. Mr. Fyfe and Mr. Magoon mentioned that a bus terminal with no fueling capabilities and a Woolworth were present in the 1940s. More recently, a paint store and printing shop (Orlean County Printers) were present. Mr. Fyfe and Mr. Magoon were not aware of any environmental problems at the site.

Property No. 3: This property is located on 28 through 38 Main Street on the north side. This property has three different building (West, Middle and East) which are joined together with a common store front. The buildings were all separate buildings on the 1905 Sanborn map. The buildings are currently commercial and have been used for commercial activities back to 1885 as

shown on the Sanborn maps. The only commercial tenant remaining is a shoe store. Previous tenants, according to Mr. Magoon and Mr. Fyfe, included J.C. Penney's, Reg's Used Furniture, a barber shop, a pub, and on the second floor was the Farber Hotel. The Sanborn maps identified a clothing store, a jewelry store and the Masonic Hall from 1919 to 1895, with a department store identified on the 1909 to 1885 maps. The 1889 and 1885 maps noted a general store, grocery and drug store on the property.

Property No. 4: This property is located at 6, 8 and 10 North Avenue on the east side of the Street. The property has a residential dwelling on it which had limited commercial use. The building is divided into several apartments; one of the units had been used as a beauty parlor. The Sanborn maps showed the building as a duplex residential dwelling from 1958 to 1895, and as a single residential dwelling on the 1889 and 1885 maps. There appears to have been no commercial use of the property, except for the beauty parlor.

Property No. 5: This property is located at 12 North Avenue on the east side of the street. The property has a residential dwelling on it and is divided into several apartments. The Sanborn map showed the building as a residential dwelling from 1958 to 1900, and the structure was absent on the 1895, 1889 and 1885 maps. There appears to have been no commercial use of the property.

Property No. 6: This property is located at 16 North Avenue on the north side of the street. The property has a residential dwelling on it and is divided into several apartments. The Sanborn maps showed the building as a residential dwelling from 1958 to 1885, with the structure being smaller on the older maps, and two dwellings present on the 1889 and 1885 maps. There appears to have been no commercial use of the property. A paint store was present on the west abutting property on the 1905 Sanborn Map.

Property No. 7: This property is located off of Lane Avenue, northwest of Property No. 6 at the foot of the embankment along the railroad tracks. The property has one structure on it which has been referred to as the west shed. The Sanborn maps showed a structure on the property back to 1905, and two structures on the 1919 map. The maps had the building labeled a coal shed in 1958, auto in 1925 and 1919, and storage in 1909 and 1905. The site visit found engine parts on this property, which suggests that the building was used for boat and/or automotive repairs.

Property No. 8: This property is located off of Lane Avenue, adjoining Property No. 7 to the east. The property has one structure on it which has been referred to as the middle west shed. The Sanborn maps showed a structure on the property back to 1905, and a small shed on the 1889 and 1885 maps. The maps had the building labeled a feed warehouse in 1958, storage in 1925 and 1919, a coal shed in 1913, and wood storage in 1909 and 1905. Inchcape was informed (Farley 1996c) that a Lime Kiln operated on the south portion of the lot at one point. The building could not be accessed at the time of the site visit. It is likely that the property had a use similar to Property No. 7.

Property No. 9: This property is located off of Lane Avenue, and abuts property No. 8 to the east. The property has one structure on it which has been referred to as the south building. The Sanborn maps showed a structure on the property back to 1905, and two small sheds on the 1889 map. The property has had a commercial use back to the 1905 map. The maps had the building labeled a Farm Machinery Sale and Service in 1958, a store house in 1925 and 1919, the March and Monarch Evaporator Factory Sheet Iron Work in 1913, and feed storage in 1909 and 1905. Recent use has been automotive repairs, taxidermy, railroad shed, scrap dealer, warehouse storage for Montgomery Ward, and a second floor apartment.

Property No. 10: This property is the right-of-way for the west portion of Lane Avenue, and a thirty (30) foot wide piece of land at the north end of Lane Avenue, which abuts the railroad tracks and extends two hundred (200) feet to the east. The history of this land is connected with its abutting properties (1, 2, 3, 9, 11, 12A, 12B, 16, and particularly 13 and 17).

Property No. 11: This property is located at 13 Lane Avenue on the west side of the Street. The property has a residential dwelling on it. The Sanborn maps showed the building as a residential dwelling from 1958 to 1885, except on the 1925 map when a store was present and on the 1909 map when a carpentry shop was present. Its most recent use was residential. Inchcape did not have access to this building during the site visit.

Property No. 12A: This property, also referred to as 12 North, is located at 11 Lane Avenue on the west side of the Street. The property has a residential dwelling on it. The Sanborn maps showed the building as a residential dwelling from 1958 to 1895; the structure was not present on the 1889 and 1885 maps. There appears to have been no commercial use of the property. Inchcape did not have access to this building during the site visit.

Property No. 12B: This property, also referred to as 12 South, is located at 9 and 91/2 Lane Avenue on the west side of the street. The property has a residential dwelling and a barn on it. The Sanborn maps showed the residential dwelling from 1958 to 1885, and the barn from 1958 to 1900. The barn was absent on the 1895, 1889 and 1885 maps. The barn was labeled as furniture storage on the 1958 map, storage on the 1925 and 1919 maps, no labels on the 1913, 1909 and 1905 maps, and grain storage on the 1900 map. The residential dwelling was labeled residential back to 1905, the 1900 and 1895 maps had it labeled as a printing office, and the 1889 and 1885 maps had a smaller dwelling on the property. Inchcape did not have access to this building during the site visit.

Property No. 13: This property is located at the north end of Lane Avenue and has one structure on it. The Sanborn maps showed a structure on the property back to 1885 which has always been for commercial use . Its most recent use was an automotive parts store. The 1958 Sanborn map had the building labeled as Auto repairs along with two additional buildings (one located northwest and the other northeast) related to auto sale and service. The 1925 map had the main building labeled as a garage, with the other two buildings not labeled and a gas station located on the southwest corner of the property, or possibly on Property No. 16. The 1919 map had it labeled as a feed stable and auto storage, alor g with an underground storage tank for gas and a structure present off the northeast corner of the main building labeled veterinary. The 1913 and

1909 maps showed the structure as a Livery Stable, with the veterinary building labeled an ice house and auto storage. On the 1905, 1900 and 1895 maps, the structures were labeled as the Hotel Livery and Ice House. On the 1889 and 1885 maps, the structure was labeled as a hotel. The ice house and other buildings were likely on abutting Property Nos. 10 and 15.

Property No. 15: This property is at the north end of Lane Avenue, and is approximately 850 square feet. The land abuts Property No. 9 to the west. The history of this land is connected with its abutting properties (No.9 and No. 13).

Property No. 16: This property is the north right-of-way of Lane Avenue. It is approximately thirty (30) feet wide and 140 feet long and is situated between Properties No. 1 and 13. The history of this land is connected with its abutting properties (No. 1 and No. 13).

Property No. 17: This property is located east of Lane Avenue, between Properties No. 38 and 39 to the south and the railroad tracks to north and east. The property is currently vacant. The Sanborn maps showed various structures on the property back to 1885. The 1958 to 1909 maps showed two structures on the northwest portion of the property. The 1958 map had one structure labeled as a print shop; the second one was unlabeled. The 1925 map had the print shop structure labeled as Vulcanizing (i.e. rubber processing), and the other building as an auto garage. On the 1919, 1913 and 1909 maps, the structures were labeled as autos and a shed. These structures were not present in the 1905 or later maps, but a portion of the Memphremagog Hotel was present on a south section of the property back to the 1885 map.

Property No. 19: This property is located on the west side of Field Avenue at its north end. The property is currently occupied by the Newport Fire Station. This station was present back to at least 1925. A residential dwelling was present on the 1913 map, and no structures were present on earlier maps.

Property No. 38: This property is located at 8 Main Street on the north side and is adjacent to the railroad tracks. The site is currently occupied by a Mobil gas and service station. The Sanborn 1958 map showed a filling station on the property. The 1925, 1919, 1913 and 1909 maps showed the property vacant except for a band stand. The 1905, 1900, 1895, 1889 and 1885 maps showed the property and west abutting property being occupied by the Memphremagog Hotel.

2.2.2 Phase II Properties

The Phase II Properties are all boathouses which have no land associated with them. Sanborn maps were reviewed back to 1905, at which time many of the boathouses were present. The historical use of this area of the waterfront was recreational. There are currently eight boathouses, two of which are operated as commercial businesses. Deed research was not completed, but current ownership is summarized in Table 1; Figure 2 shows the boathouses' locations. Boathouse A is located at the west end of the Phase II site and its current occupant is the Memphremagog Marina business. This boathouse was the former site of the Memphremagog Yacht Club. Boathouse G2's current occupant is the Sport Center Inc. business. The remaining boathouses are privately owned. All of these boathouses are scheduled for demolition, with no plans for reconstruction of any boathouse.

2.3 Site Utility

The site is supplied with drinking water from the City of Newport, which draws its water out of Lake Memphremagog. The site is connected to municipal sewage. Electricity is supplied by Citizens Electric. The transformers around the site may contain PCB oils. Flourecent lighting within the buildings may have transformers which contain PCB oils. The heating for each building is through its own fuel oil source. Each building either had an underground storage tank (UST), an above ground tank, and/or a tank in the basement. Location and number of tanks will be discussed in Section 4.2.2 (Storage Tanks).

3.0 ABUTTERS

Information for the abutting properties of the site was collected during the site visit, from tax records at the Newport City Hall, and information provided by Vermont Department of State Buildings. The site abuts Lake Memphremagog to the north, Main Street to the south, and North Avenue to the west. Property No. 19 (the Fire Station) is west of the main site and is abutted by Field Avenue on the south, east and west, and railroad tracks to the north. The surrounding properties are similar to the description of the project properties, a combination of residential and commercial properties. The Phase I and II portions of the project are separated by the Canadian Pacific Railway railroad tracks, which run east to west. The commercial activities are concentrated along Main Street and consist of retail stores, banks, restaurants and other service oriented businesses. The residential properties, with some commercial and service oriented businesses, are located along North Avenue between Property No. 19 and the rest of the Phase I properties. Additional residential properties are located west of Field Avenue. City of Newport properties abut the project to the east (where a small park is located), to the south and north of Property No. 19 (where south City Hall is located), and to the north of the railroad tracks where the municipal docks and recreation building (Gateway Building) are located.

4.0 PETROLEUM AND HAZARDOUS WASTE ACTIVITIES

4.1 Regional Hazardous Waste Sites

Inchcape reviewed Vermont Department of Environmental Conservation (VT DEC) files and records to identify the presence of hazardous waste release sites within a one half mile radius of the properties. Inchcape also reviewed the following VT DEC lists: CERCLIS sites, NPL (Superfund) sites, VT Spill Data Base, RCRA generators, registered USTs, and solid waste management facilities.

Based on this file review, Inchcape determined that there are no Superfund sites or Hazardous Waste Treatment, Storage or Disposal (TSD) facilities within a mile radius, nor are there any CERCLA site or solid waste management facilities within a half mile. Two hazardous substance spills have been documented on the VT DEC Spill Data Base for the Mobil Station and will be discussed in Section 4.2.3 (Spills and Releases). No other spills were documented for the properties or reported by the Newport Fire Department (Farley 1994c).

A review of VT DEC Hazardous Waste Site list has identified six sites within a half mile of the site, with one of these sites located on a Phase I property. Figure 1 shows the locations of each waste site. The Newport Mobil site (No. 890300) is located at the southeast end of the Phase I property (Map No. 1) and will be discussed in Section 4.2.3 (Spills and Releases). The NET site (No. 941577) is located approximately an eighth of a mile south and west of the properties (Map No. 2). An oil tank was pulled with minimal soil contamination. A letter dated January 1995 recommended closure of the site. The One Stop Mini Mart (site No. 911071) is located approximately an eighth of a mile south and east of the properties (Map No. 3). This site had eight USTs removed in June 1991, during which contaminated soils were encountered. The most recent document reviewed (July 1994) stated that contaminated soils were still stockpiled on site. Jimmy Quick Stop (Site No. 941644) is located approximately a quarter mile south of the property (Map No. 4). This site has petroleum contaminated groundwater; groundwater flow is to the southeast (away from the subject properties) and the upgradient well is clean. The Sacred Heart School (Site No. 951823) is located approximately a half mile southwest of the properties (Map No. 5). Six USTs were removed in July of 1995, with some soil contamination around one of the tanks. The soil is piled on site and is being monitored. The Newport City Garage (Site No. 931387) is located approximately a half mile northeast of the properties (Map No. 6). A UST was pulled in May 1993 with minimal groundwater contamination. Groundwater is flowing to the west and is being monitored annually until the site is closed. None of the sites discussed above (with the exception of the Newport Mobil site) are likely to impact the State Building Project properties.

4.2 The Properties Hazardous Waste Activities

4.2.1 Resource Conservation Recovery Act (RCRA) generators

Inchcape has identified three former owner/occupants of properties which are part of the State Building Project that were Resource Conservation Recovery Act (RCRA) generators. These generators were Ray's Auto Service, located at the north end of Lane Avenue (Property No. 9), Orlean County Printer, located at 14 Lane Avenue (Property No. 2), and the Mobil Oil Company, located at 8 Main Street (Property No. 38). The Orlean County Printer generated less than two pounds of ink and two gallons of solvent per year which were disposed of in the local landfill. The Mobil RCRA file had only an EPA identification form in it.

Ray's Auto Service was a small quantity generator. A June 1988 State Inspection documented that: one to one and a half 55 gallon drums of waste oil were generated annually, some of this oil being used to start the wood stove; solvent and old rags were disposed of by a service contractor; "speedy dry" was disposed of in the trash; and antifreeze was dumped in the floor drain. The report mentioned that the Newport Fire Department pumped out the drain. No one from the Fire Department with first hand knowledge of this activity could be reached at this time. No action was taken in relation to this inspection. During Inchcape's site visit, a fair amount of stained soils and floors were observed at this property. Engine parts, equipment for engine maintenance, hazardous materials and petroleum products associated with engine repair were present. The upper floors also contained a variety of hazardous materials.

Small quantities of hazardous materials (>10 gallons) were observed in many of the buildings. The building on Property No. 6 had the largest quantity of hazardous materials, such as paints, lacquers, finisher, sealants and petroleum products. An estimated fifty (50) to eighty (80) gallons of containerized hazardous materials may remain at this site. Smaller quantities of aforementioned hazardous materials were present in the buildings on Properties No. 4 & 5. Properties No. 8, 11, 12A and 12B were not accessed and may contain hazardous materials.

4.2.2 Storage Tanks

Each property with a building on it appeared to have its own heating fuel tank either in the basement, outside above ground, or underground. Figure 2 gives the approximate location of the above ground tanks and the assumed location of underground tanks. Table 1 summarizes the location of the known tanks. The Fire Station has three large tanks located at the northeast corner of the building. Inchcape was informed that these tanks are used for compressed air. There may be additional tanks on the properties which were not observed during Inchcape's site visit. The Sanborn maps noted USTs at various locations; these tanks could potentially still be in place, but would be unlikely.

4.2.3 Spills and Releases

Inchcape reviewed the Spill Data List for Newport to identify the release of petroleum products or hazardous materials at any of the properties. Two spills/releases were documented at the Mobil Station located at 8 Main Street (Property No. 38). The first one was in January of 1984 regarding missing waste oil. The tank was pulled; no leak had occurred. The second one was in February 1989 when gasoline was found in a monitor well. The station was listed as a Vermont hazardous waste release site. Inchcape reviewed the files for this site at the VT DEC Waste Management Division (WMD) Waterbury offices. The site has been under active remediation, with a soil vapor extraction system and a groundwater pump and treatment system. The most recent quarterly report (20 December 1995) shows contamination levels are still elevated in several wells. A letter to the VT DEC WMD from Mobil Oil (dated October 1995) indicated this treatment system may no longer be effective in treating the remaining contamination; that additional remediation technologies (e.g. Oxygen Releasing Compound socks) are being incorporated at the site; and a change in sampling strategy is being pursued. The system is currently shut down and is being evaluated for permanent shutdown. It appears that the future activities will include passive remediation (e.g. socks) and quarterly monitoring of seven (7) or eight (8) wells.

Soil borings for geotechnical evaluation were completed by Green Mountain Boring from 30 October to 6 November 1995 along North Avenue and Lane Avenue. At three locations, petroleum odors were noted. One location was on Property No. 11 along the south central portion of the property at the foot of the embankment. A petroleum odor was noted at a depth of four to eight feet and within the groundwater. The second location was on Property No. 12A, along the south central property line. Odor was noted at a depth of 15 to 22 feet and within the groundwater. The third location was on Property No. 3, at the northeast corner of the property. Odor was noted at a depth of 20 to 22 feet and within the groundwater. Inchcape was informed that there may have been a fuel oil leak from the tank located on Property No. 3. Additional borings were completed at various locations on Property No. 10 on July 2 and 3 with soil screening using a photo-ionization detector (PID). One (1) reading above background (1.2 PPM) was observed at Property No. 10 near the border of Properties Nos. 11 and 12A; no visual observation of contamination was noted.

The stained soils observed at Properties Nos. 7 and 9 could be considered an unreported release. Historical activities at these properties have a reasonably high potential for releases of hazardous materials or petroleum products.

5.0 FINDINGS AND CONCLUSIONS

Inchcape's findings for the Level I Environmental Site assessment for the State Building Project located in the City of Newport, Vermont are as follows:

- Property No. 38, the Reed's Service Station (aka Mobil), located at 8 Main Street, is on the State's Hazardous Waste Release site list. Remediation activities currently being implemented entail oxygen releasing socks in several wells. The groundwater pump and treatment and soil vapor extraction system are currently shut down and are being evaluated for permanent shutdown. The most recent monitoring report shows significant level of petroleum contaminant in the groundwater. There appears to be no completion of remediation and monitoring in the near future.

- Contaminated soils have been identified along Lane Avenue.. Soil borings completed in October and November of 1995 found petroleum contaminated soil within the water table on Properties Nos. 3, 11, and 12A. Inchcape was informed that the UST on Property No. 3 may have leaked, which could be the source of the observed contamination. Stained soils were observed on Properties No. 7 and 9. Both of these latter properties appear to have been used for engine maintenance activities.

- Three RCRA Generators operated on three of the properties. The former occupant (presumably the current occupant) of Property No. 38 is on the RCRA listing. The Orlean County Printers, which operated on Property No. 2, was listed as a small quantity generator. Ray's Auto Service, which operated on Property No. 9, was listed as a generator.

- All the properties had their own heating fuel source, which in most cases was from a fuel oil tank. These tanks were either in the basement, above ground outside, or an UST. Two of the boathouses had their own gasoline tank. Boathouse A has a UST and boathouse G2 has a tank submerged in the lake.

- Many of the properties (No. 4, 5, 6, 7, and 9) had small quantities (<10 gal.) of hazardous materials such as paints, lacquers, and other household maintenance products. Properties No. 11, 12, and 12A could not be accessed to evaluate the presence of hazardous materials.

- There are five Hazardous Waste Sites within a half mile of the State building project site. These sites appear to pose no risk of contaminating the subject property.

6.0 RECOMMENDATIONS

Based on information obtained during the Environmental Site Assessment as documented in this report, additional work should be completed. All hazardous materials, petroleum products, and fuel storage tanks should be removed prior to demolition. The removal of USTs should be supervised by an Environmental Professional who will be able to screen soils for contamination. Base on the findings of the UST removals and information of known contaminated areas, a soil and groundwater sampling strategy should be developed and completed. Soil samples should be screened with a photo-ionization detector (PID) for volatile organic compounds (VOCs). Based on PID screenings and visual observations, soil samples and groundwater samples should be collected for laboratory analysis. Samples which have significant PID readings should be submitted for VOC analysis following U.S. EPA Method 8240. Samples which have evidence of fuel oil contamination should be submitted for total petroleum hydrocarbons (TPH) analysis following U.S. EPA Method 418.1. Additional tests for semi-volatile organic compounds, metals, and other specific compounds may be warranted.

7.0 LIMITATIONS

This assessment and report was conducted and prepared for the use of the State of Vermont, Department of State Buildings, the client. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party, in whole or in part, without prior written consent of Inchcape. However, Inchcape acknowledges and agrees that this report may be conveyed to the buyer, seller, or lender associated with the proximate purchase or refinancing of the property by the Client and to contractors associate with the demolition of the buildings. The conclusions provided by Inchcape in this assessment are based solely upon information reported in this document; no comprehensive asbestos survey, lead paint survey, or lead in water evaluation; radon gas survey, or detailed hydrogeological investigation was performed as part of this study. Should additional information relative to the site become available in the future, this information should be reviewed by Inchcape, and the conclusions presented herein may be modified.

8.0 CERTIFICATION

We have performed a Phase (Level) I Environmental Site Assessment in conformance with the scope and limitations of ASTM Standard Practice E1527 of the State Building Project in Newport, Vermont, the Site. Any exceptions to, or deletion from, this practice are described in Section 2.2, paragraph 3 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the site, except contamination of Property Nos. 3, 7, 9, 11, 12A and 38.

Robert G. Farley
Geologist

Roland R. Luxenberg
Professional Engineer

9.0 BIBLIOGRAPHY

Aerographic, 1974 Aerial Photograph, State of Vermont Project No. VT7420, Photograph No. 24-088. Aerographic Corp., Bohemia, New York.

The City of Newport Offices, Warrants, Deeds and Tax records, June 1996.

Doll, C.G. 1970. "Surficial Geologic Map of Vermont." Vermont Geological Survey, Department of Water Resources.

Environmental Protection Agency (EPA), February 1993, "Status of Region I National Priority List Sites (Superfund Sites)."

Farley, R.G. (Inchcape.) 1996a. Interview with Mr. Ken Magoon City of Newport City Manager. Re: Newport SA, Newport, Project No. 96028. 2 July 1996.

Farley, R.G. (Inchcape.) 1996b. Interview with Mr. Bill Fyfe State House representative for the City of Newport. Re: Newport SA, Newport, Project No. 96028. 2 July 1996.

Farley, R.G. (Inchcape.) 1996c. Conversations with Mr. John Ostrum, Owner representative. Re: Newport SA, Newport, Project No. 96028. February through July 1996.

Farley, R.G. (Inchcape.) 1995e. Interview with City of Newport Fire Department representative Re: Newport SA, Newport, Project No. 96028. July 1996 .

Inchcape 1996. Project File. Newport SA, City of Newport, Project No. 96028.

Sanborn Fire Insurance Maps, 1958, 1925, 1919, 1913, 1909, 1905, 1900, 1895, 1889 and 1885. Sanborne Map Co., NY., NY., on file at the University of Vermont, Bailey Howe Library, Special Collection

USGS. 1986. Newport VT. Quadrangle, Vermont. U.S. Geological Survey 7.5 minute series (topographic).

Vermont Department of Environmental Conservation. RCRA Generator Listing of Newport, Vermont. Vermont Department of Environmental Conservation, Waste Management Division (WMD), Waterbury, Vermont. June 1995.

VT DEC, "Permitted Hazardous Waste TSDFs." DEC WMD, Waterbury, VT. March 1994.

VT DEC. Vermont Hazardous Sites List. DEC WMD, Waterbury, Vermont, April 1996 (current).

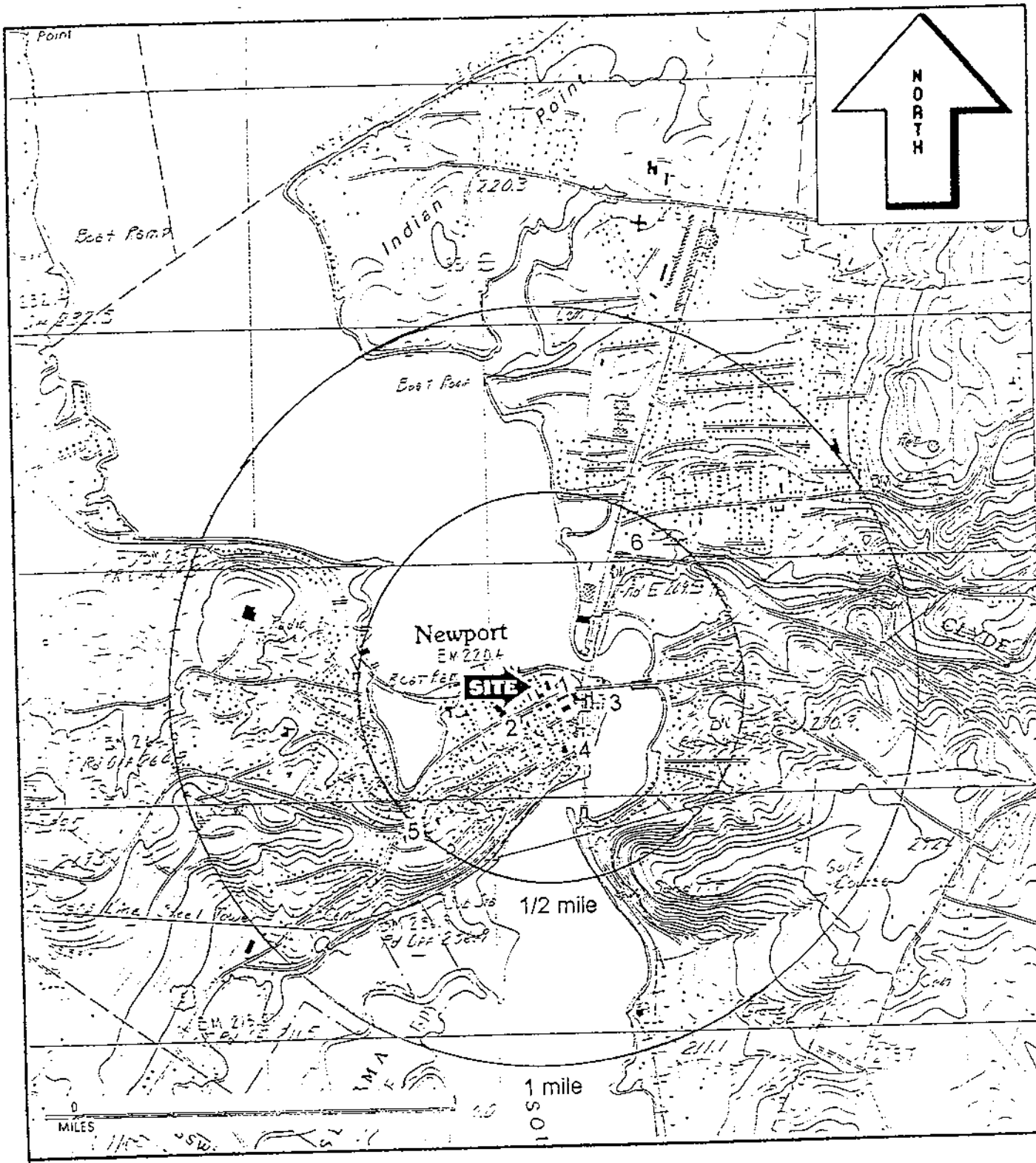
VT DEC, "Vermont Solid Waste Disposal Facilities, Currently Operating or Operations Discontinued," DEC Solid Waste Management Division (SWMD), Waterbury, VT. December 1992.

VT DEC. Spills Data Base Listing, "Newport" DEC WMD, Waterbury, VT. August to March 22, 1996.

VT Property Valuation and Review Division (PVRD), Vermont Mapping Program, Agency of Administration, PVRD. Sheet No. 0172268. Photograph Name: Newport West

Table 1
Property Ownership, Uses, and
Fuel Tank Summary

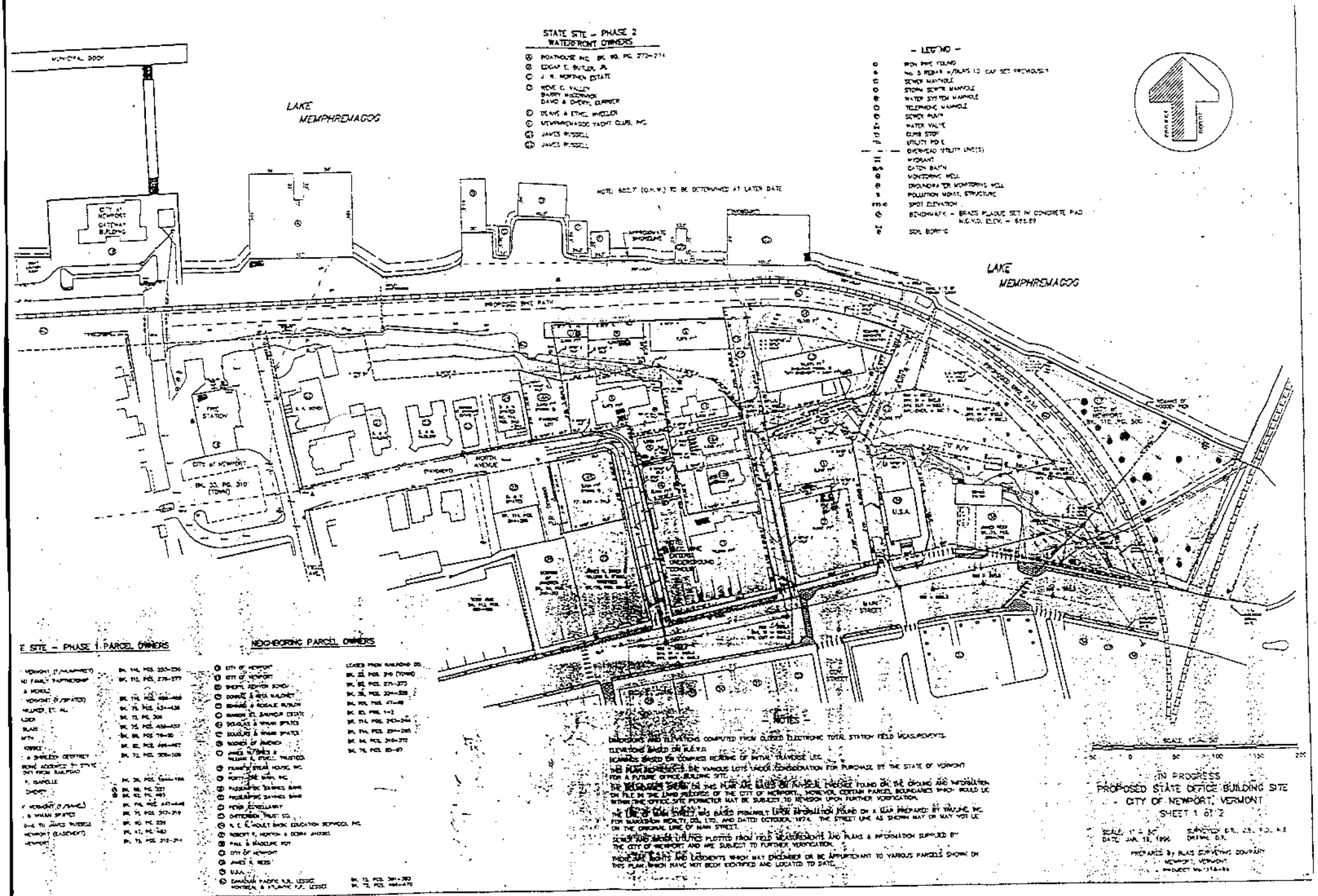
Property No.	Former Owner	Property Use		Fuel Tanks			
				Number	Type & Location	Use	Notes
Phase I Properties							
1	Humphrey	Commercial		1	Underground	Heating Oil	
2	Pomerleau Family Partnership	Commercial		4	Basement	Heating Oil	2 in service & 2 out of service
3	Spates	Commercial		3	Basement & UST	Heating Oil	UST may have leaked
4	R. Hilliker	Com./Res.		1	UST	Heating Oil	
5	H. Wilder	Residential		2	UST & Above ground	Heating Oil	Above ground probably replaced UST
6	A. Blais	Residential		2	Basement	Heating Oil	
7	L. G. Smith	Private/workshop		1	Above ground	Heating Oil	
8	G. Kibbee	Private/workshop		1	UST	Heating Oil	
9	R. & S. Geoffrey	Commercial		1	Unknown	Heating Oil	Presumably at least one tank on site
10	Cadanian Pacific Railroad	Easement					No structure requiring fuel
11	J.M. & M.P. Isabelle	Residential					Wood heat; no access to building
12A	P. Cheney	Residential		4	Basement	Heating Oil	No access, 4 fill pipes
12B	P. Cheney	Com./Res.		2	Basement	Heating Oil	No access, 2 fill pipes
13	Sanel	Commercial		1	Basement	Heating Oil	
15	J. Russell	Easement					No structure requiring fuel
16	City of Newport	Easement					No structure requiring fuel
17	City of Newport	Open space					No structure requiring fuel
19	City of Newport	Fire Dept.		2	Outside & Basement	Propane Heating Oil	Propane-Cooking; no access to Bldg.
38	J.R. Reed	Service Station		Unknown	UST	Gasoline Heating Oil	
Phase II Properties							
A	Boathouse Inc.	Commercial		1	UST	Gasoline	
B	E.E. Butler Jr.	Private/recreational					
C	J. W. Worthen Estate	Private/recreational					
D	R. Vallee, B. McCormick & D. Currier	Private/recreational					
E	D & E Wheeler	Private/recreational					
F	Memphremagog Yacht Club	Private/recreational					
G1	J. Russell	Private/recreational					
G2	J. Russell	Commercial		1	In the water	Gasoline	



Source: USGS 1986. Newport Quadrange Vermont U.S. Geological Surve 7.5 min. series (topographic) Scale 1:24000

QUADRANGLE LOCATION

FIGURE 1
Site Locus Plan
State Building Project
Newport, Vermont



Fuel Tanks

Figure 2
Fuel Tank Storage Locations

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 32718

Matrix Spike - Sample No.: OHWBLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
o-Xylene	10		11	110	60-140
m- & p-Xylene	20		22	110	60-140
Dichlorodifluoromethane	10		20	200*	60-140
Chloromethane	10		13	130	60-140
Vinyl Chloride	10		13	130	60-140
Bromomethane	10		14	140	60-140
Chloroethane	10		12	120	60-140
Trichlorofluoromethane	10		16	160*	60-140
Acetone	25		12	48*	60-140
1,1-Dichloroethene	10		12	120	70-125
trans-1,2-Dichloroethen	10		12	120	75-125
Carbon Disulfide	10		10	100	60-140
Methylene Chloride	10		12	120	60-140
Methyl-t-Butyl Ether	10		11	110	60-140
1,1-Dichloroethane	10		11	110	60-140
1,2-Dichloroethene (tot	20		23	115	60-140
cis-1,2-Dichloroethene	10		12	120	60-140
2,2-Dichloropropane	10		12	120	60-140
2-Butanone	25		11	44*	60-140
Chloroform	10		11	110	60-140
Bromochloromethane	10		12	120	60-140
1,1,1-Trichloroethane	10		12	120	75-125
1,1-Dichloropropene	10		11	110	60-140
Carbon Tetrachloride	10		11	110	60-140
1,2-Dichloroethane	10		11	110	75-125
Benzene	10		11	110	70-115
Trichloroethene	10		12	120	70-125
1,2-Dichloropropane	10		11	110	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

GREEN MOUNTAIN BORING
RR 2 BOX 4447
Barre, VT 05641

HOLE NUMBER: S-1

TO: Civil Engineers and Assoc.
PROJECT NAME: State Building — NEWPORT

JOB NUMBER: 95-116

AUGER SIZE: 3.25" I.D.
SAMPLING METHOD: 140lbs.hammer
GROUNDWATER DEPTH: 6' at 1 hours.
LOCATION OF BORING: As Staked

SHEET: 6
DATE STARTED: 11/1/95
DATE COMPLETED: 11/2/95
FOREMAN: R. Garneau
INSP: Eric Boyden
SOILS ENGR:

SAMPLE DEPTH	TYPE	BLOW PER 6"	SOIL IDENT.	STRATA CHANGE	SAMPLE NUMBER	PEN.	REC.
0'-2'	SS	4/6/9/7	Silty sand and stone (dry)		1	24"	16"
2'-4'	SS	7/5/4/6	Fine silty sand (dry)		2	24"	12"
4'-6'	SS	6/4/6/7	Fine sand and large stone (wet)		3	24"	4"
6'-8'	SS	7/11/13/10	Fine sand (wet)		4	24"	15"
8'-10'	SS	5/9/12/9	Fine sand (wet)		5	24"	16"
10'-12'	SS	9/4/4/5	Fine sand into silty clay (wet)		6	24"	21"
12'-14'	SS	7/9/12/12	Brown clay (wet)		7	24"	18"
14'-16"	SS	5/6/7/9	Grey clay some silt (wet)		8	24"	12"

SUMMARY: Ground surface to 14' used 3.25" Augers then SS to 16'
EARTH BORINGS: 16'
ROCK CORING:
SAMPLES: 8

GREEN MOUNTAIN BORING
RR 2 BOX 4447
Barre, VT 05641

HOLE NUMBER: S-2

TO: Civil Engineers and Assoc.
PROJECT NAME: State Building – Newport

JOB NUMBER: 95-116

AUGER SIZE: 3.25" I.D.
SAMPLING METHOD: 140lbs.hammer
GROUNDWATER DEPTH: 5' at 1 hours.
LOCATION OF BORING: As Staked

SHEET: 7
DATE STARTED: 11/2/95
DATE COMPLETED: 11/2/95
FOREMAN: R. Garneau
INSP:
SOILS ENGR:

SAMPLE DEPTH	TYPE	BLOW PER 6"	SOIL IDENT.	STRATA CHANGE	SAMPLE NUMBER	PEN.	REC.
0'-2'	SS	10/10/6/3	Sand and stone (dry)		1	24"	14"
2'-4'	SS	6/3/4/8	Fine sand (dry)		2	24"	18"
4'-6'	SS	7/26/15/14	Fine sand weathered rock (wet)		3	24"	22"
6'-8'	SS	11/11/12/9	Fine sand and stone (wet)		4	24"	19"
8'-10'	SS	3/3/5/7	Fine sand small stone (wet)		5	24"	23"
10'-12'	SS	4/2/3/4	Fine sand into clay (wet)		6	24"	19"
12'-14'	SS	3/3/4/3	Fine sand some clay (wet)		7	24"	19"
14'-16"	SS	4/2	Fine sand and clay (wet)		8	12"	12"

SUMMARY: Ground surface to 14' used 3.25" Augers then SS to 16'
EARTH BORINGS: 16'
ROCK CORING:
SAMPLES: 8

GREEN MOUNTAIN BORING
RR 2 BOX 4447
Barre, VT 05641

HOLE NUMBER: S-3

TO: Civil Engineers and Assoc.
PROJECT NAME: State Building – Newport

JOB NUMBER: 95-116

AUGER SIZE: 3.25" I.D.
SAMPLING METHOD: 140lbs.hammer
GROUNDWATER DEPTH: 5.5' at 1 hours.
LOCATION OF BORING: As Staked

SHEET: 8
DATE STARTED: 11/2/95
DATE COMPLETED: 11/2/95
FOREMAN: R. Garneau
INSP:
SOILS ENGR:

SAMPLE DEPTH	TYPE	BLOW PER 6"	SOIL IDENT.	STRATA CHANGE	SAMPLE NUMBER	PEN.	REC.
0'-2'	SS	3/4/5/2	Fine sand and small stone (dry)		1	24"	16"
2'-4'	SS	2/3/3/2	Fine sand (dry)		2	24"	16"
4'-6'	SS	3/1/2/2	Fine sand (wet) **petroleum odor**		3	24"	14"
6'-8'	SS	1/3/4/4	Fine sand (wet) **petroleum odor**		4	24"	23"
8'-10'	SS	1/1/1/3	Fine sand (wet)		5	24"	15"
10'-12'	SS	1/2/3/5	Fine sand (wet)		6	24"	19"
12'-14'	SS	5/7/9/10	Fine sand (wet)		7	24"	22"
14'-16"	SS	6/8	Fine sand (wet)		8	12"	11"

SUMMARY: Ground surface to 14' used 3.25" Augers then SS to 16'
EARTH BORINGS: 16'
ROCK CORING:
SAMPLES: 8

GREEN MOUNTAIN BORING
RR 2 BOX 4447
Barre, VT 05641

HOLE NUMBER: S-4

TO: Civil Engineers and Assoc.
PROJECT NAME: State Building – N Rutland

JOB NUMBER: 95-116

AUGER SIZE: 3.25" I.D.
SAMPLING METHOD: 140lbs.hammer
GROUNDWATER DEPTH: 7.5' at 1 hours.
LOCATION OF BORING: As Staked

SHEET: 10
DATE STARTED: 11/6/95
DATE COMPLETED: 11/6/95
FOREMAN: R. Garneau
INSP: Eric Boyden
SOILS ENGR:

SAMPLE DEPTH	TYPE	BLOW PER 6"	SOIL IDENT.	STRATA CHANGE	SAMPLE NUMBER	PEN.	REC.
0'-2'	SS	8/7/3/3	Fine sand some stone (dry)		1	24"	16"
2'-4'	SS	3/2/2/3	Fine sand (dry)		2	24"	16"
4'-6'	SS	4/2/1/3	Fine sand small stone(dry)		3	24"	14"
6'-8'	SS	2/4/2/1	Fine sand little brick(moist)		4	24"	21"
8'-10'	SS	2/1/1/1	Fine silty sand (wet)		5	24"	9"
10'-12'	SS	3/4/4/5	Fine sand and stone (wet)		6	24"	22"
12'-14'	SS	3/4/5/7	Fine sadn and small stone (wet)		7	24"	21"
14'-15"	SS	5/5	Fine sand and small stone (wet)		8	12"	9"

S-1 through S-6 used 6 core boxes

SUMMARY: Ground surface to 14' used 3.25" Augers then SS to 15'
EARTH BORINGS: 15'
ROCK CORING:
SAMPLES: 8

GREEN MOUNTAIN BORING
RR 2 BOX 4447
Barre, VT 05641

HOLE NUMBER: B-1

TO: Civil Engineers and Assoc.
PROJECT NAME: State Building – Newport

JOB NUMBER: 95-116

AUGER SIZE: 3.25" I.D.
SAMPLING METHOD: 140lbs.hammer
GROUNDWATER DEPTH: none at 0 hours.
LOCATION OF BORING: As Staked

SHEET: 4
DATE STARTED: 10/31/95
DATE COMPLETED: 10/31/95
FOREMAN: R. Garneau
INSP: Eric Boyden
SOILS ENGR:

SAMPLE DEPTH	TYPE	BLOW PER 6"	SOIL IDENT.	STRATA CHANGE	SAMPLE NUMBER	PEN.	REC.
5'-7'	SS	3/4/4/4	Coarse med. sand into a 3" layer of crush stone into fine silty sand (wet)		1	24"	18"
10'-12'	SS	4/3/4/4	Very fine brown silty sand traces of brown clay (wet)		2	24"	24"
15'-17'	SS	8/9/10/12	Brown clay into gravel with sand (wet)		3	24"	24"
20'-22'	SS	11/12/16/19	Medium and coarse sand large and small stones (wet)		4	24"	24"
25'-27'	SS	12/13/9/13	Fine brown sand (wet)		5	24"	24"
30'-32'	SS	7/7/9/10	Fine brown sand (wet)		6	24"	24"
35'-37'	SS	8/7/8/10	Fine brown sand into a med. sand trace of clay (wet)		7	24"	24"
40'-42'	SS	11/20/24	Grey silty clay into a grey silty sand (wet)		8	18"	18"
45'-47'	SS	4/6/6/7	Grey clay some stone (wet)		9	24"	24"
50'-52'	SS	7/11/20/25	Very fine grey silt some clay (wet)		10	24"	24"
55'-57'	SS	10/17/16/19	Very fine grey silt trace of clay (wet)		11	24"	20"
60'-62'	SS	5/4/6/6	Grey clay some silt (wet)		12	24"	24"
65'-67'	SS	6/5/6/7	Grey clay some silt (wet)		13	24"	24"

75'-77'	SS	8/8/11/10	Very fine silty sand (wet)	14	24"	24"
85'-87'	SS	12/18/22/32	Very fine grey sand some silt (wet)	15	24"	24"

SUMMARY: Ground surface to 85' used 3.25" Augers then SS to 87'
EARTH BORINGS: 87'
ROCK CORING:
SAMPLING: 15

GREEN MOUNTAIN BORING
RR 2 BOX 4447
Barre, VT 05641

HOLE NUMBER: B-3

TO: Civil Engineers and Assoc.
PROJECT NAME: State Building – Newport

JOB NUMBER: 95-116

AUGER SIZE: 3.25" I.D.
SAMPLING METHOD: 140lbs.hammer
GROUNDWATER DEPTH: 15' at 1 hours.
LOCATION OF BORING: As Staked

SHEET: 1
DATE STARTED: 10/30/95
DATE COMPLETED: 10/30/95
FOREMAN: R. Garneau
INSP: Eric Boyden
SOILS ENGR:

SAMPLE DEPTH	TYPE	BLOW PER 6"	SOIL IDENT.	STRATA CHANGE	SAMPLE NUMBER	PEN.	REC.
5'-7'	SS	2/3/3/3	Fine to medium brown sand (dry)		1	24"	16"
10'-12'	SS	6/6/7/8	Fine brown sand (dry)		2	24"	18"
15'-17'	SS	2/2/2/4	Fine black - brown sand (wet)		3	24"	22"
20'-22'	SS	3/4/6/7	Black sand traces of silt (wet) **strong petroleum odor**		4	24"	20"
25'-27'	SS	4/6/12/23	Fine brown sand traces of silt (wet)		5	24"	24"
30'-32'	SS	5/4/7/9	Fine brown sand traces of silt into a fine to med. grey sand (wet)		6	24"	24"
35'-37'	SS	3/6/6/19	Grey clay with few small stones (wet)		7	24"	24"
40'-42'	SS	3/4/7/10	Silty grey clay (wet)		8	24"	20"
45'-47'	SS	17/26/27/18	Silty grey clay into a grey silt (wet / dry)		9	24"	24"
50'-52'	SS	7/14/18/16	Silty grey clay (dry)		10	24"	22"

SUMMARY: Ground surface to 50' used 3.25" Augers then SS to 52'
EARTH BORINGS: 52'
ROCK CORING:
SAMPLES: 10

GREEN MOUNTAIN BORING
RR 2 BOX 4447
Barre, VT 05641

HOLE NUMBER: B-4

TO: Civil Engineers and Assoc.
PROJECT NAME: State Building – Newport

JOB NUMBER: 95-116

AUGER SIZE: 3.25" I.D.
SAMPLING METHOD: 140lbs.hammer
GROUNDWATER DEPTH: 15' at 1 hours.
LOCATION OF BORING: As Staked

SHEET: 3
DATE STARTED: 10/31/95
DATE COMPLETED: 10/31/95
FOREMAN: R. Garneau
INSP: Eric Boyden
SOILS ENGR:

SAMPLE DEPTH	TYPE	BLOW PER 6"	SOIL IDENT.	STRATA CHANGE	SAMPLE NUMBER	PEN.	REC.
5'-7'	SS	1/1/1/2	Fine brown sand (dry)		1	24"	12"
10'-12'	SS	3/3/2/3	Coarse sand and stone (dry)		2	24"	8"
15'-17'	SS	5/4/7/7	Fine brown sand (wet) **petroleum odor**		3	24"	20"
20'-22'	SS	6/6/6/7	Coarse sand and small stone into fine sand (wet) **petroleum odor**		4	24"	24"
25'-27'	SS	19/28/25/30	Fine brown sand (wet)		5	24"	24"
30'-32'	SS	14/13/8/7	Fine brown sand some clay layers (wet)		6	24"	24"
35'-37'	SS	13/6/8/7	Fine brown sand into grey clay (wet)		7	24"	24"
40'-42'	SS	12/10/10/11	Grey clay traces of silt (wet)		8	24"	24"
45'-47'	SS	15/18/22	Fine brown sand into silty clay (wet)		9	18"	18"

SUMMARY: Ground surface to 45' used 3.25" Augers then SS to 47'
EARTH BORINGS: 47'
ROCK CORING:
SAMPLES: 9

GREEN MOUNTAIN BORING
RR 2 BOX 4447
Barre, VT 05641

HOLE NUMBER: B-5

TO: Civil Engineers and Assoc.
PROJECT NAME: State Building - Newport

JOB NUMBER: 95-116

AUGER SIZE: 3.25" I.D.
SAMPLING METHOD: 140lbs.hammer
GROUNDWATER DEPTH: 4' at 1 hours.
LOCATION OF BORING: As Staked

SHEET: 2
DATE STARTED: 10/30/95
DATE COMPLETED: 10/30/95
FOREMAN: R. Garneau
INSP: Eric Boyden
SOILS ENGR:

SAMPLE DEPTH	TYPE	BLOW PER 6"	SOIL IDENT.	STRATA CHANGE	SAMPLE NUMBER	PEN.	REC.
5'-7'	SS	4/2/4/4	Fine brown sand with silt small stones (wet) **petroleum odor**		1	24"	10"
10'-12'	SS	2/1/1/3	Fine brown sand to med. brown sand (wet) **slight petroleum odor**		2	24"	18"
15'-17'	SS	4/5/5/4	Fine to med. brown sand into a brown clay (wet)		3	24"	19"
20'-22'	SS	6/6/5/9	Fine to med. brown sand with brown clay (wet)		4	24"	20"
25'-27'	SS	7/7/9/10	Fine to med. brown sand with brown clay into a grey silty clay (wet)		5	24"	20"
30'-32'	SS	8/8/11/12	Grey silty clay (wet)		6	24"	24"
35'-37'	SS	3/3/7/9	Grey silty clay with traces of very fine grey sand (wet)		7	24"	22"
40'-42'	SS	9/11/12/10	Grey silty clay with traces of very fine grey sand (wet/ dry)		8	24"	22"
45'-47'	SS	8/10/9/11	grey silty clay with traces of very fine grey sand (wet)		9	24"	24"
50'-52'	SS	7/11/10/9	Grey silty clay with traces of very fine grey sand (wet)		10	24"	24"

SUMMARY: Ground surface to 50' used 3.25" Augers then SS to 52'
EARTH BORINGS: 52'
ROCK CORING:
SAMPLES: 10

GREEN MOUNTAIN BORING

PO Box 218 ° East Barre, Vermont 05649 ° 802 476-5073

TO: Civil Engineering Associates, Inc.
P.O. Box 485
Shelburne, VT 05482
Attn.: Jim Olsen / Steve Vock

PROJECT NAME: State Building

LOCATION: Newport, VT

GMB JOB #: 96-106

SHEET:	1
DATE:	7/3/96
HOLE #:	S-1A
LINE & STA.	
OFFSET:	none

Ground Water Observations				Surface Elev.:	
	Type	Augers	Split Spoon	Date Started:	7/3/96
At none at 0 hours	Size I.D.	2.50"	13/8"	Date Completed:	7/3/96
	Hammer Wt.		140#	Boring Foreman:	Ron Garneau
At at hours	Hammer Fall		30"	Inspector:	Steve Vock
				Soils Eng.:	Civil Eng.

LOCATION OF BORING: As shown

Depth	Casing Blows Per Foot	Sample Depths From/To	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample No. Rec.	Sample Pen	
		5'-7'	SS	23/4/4/3	dry		Fine through coarse sand and some small pebbles	1	24"	13"
		10'-12'	SS	4/4/5/4	dry		Fine through coarse sand and some small pebbles	2	24"	14"
		15'-17'	SS	2/3/3/4	wet		Fine through coarse sand	3	24"	18"
		20'-22'	SS	2/2/1/3	wet		Fine through coarse sand	4	24"	13"
		25'-27'	SS	7/10/11/7	wet		Fine through coarse sand	5	24"	18"
		30'-32'	SS	9/7/9/7	wet		Fine gray sand	6	24"	15"
		35'-37'	SS	2/2/2/3	wet		Fine sand into a gray silty clay	7	24"	24"
		40'-42'	SS	4/7/9/10	wet		Gray silty clay with fine sand layers	8	24"	
							materials used			
							1 core box			

Ground Surface to 40' | Used 2.50" Augers: Then SS to 42'

SUMMARY: Earth Boring 42' Rock Coring Samples 8 **HOLE #** **S-1A**

GREEN MOUNTAIN BORING
PO Box 218 ° East Barre, Vermont 05649 ° 802 476-5073

TO: Civil Engineering Associates, Inc.
P.O. Box 485
Shelburne, VT 05482
Attn.: Jim Olsen / Steve Vock

PROJECT NAME: State Building

LOCATION: Newport, VT

GMB JOB #: 96-106

SHEET:	2
DATE:	7/2/96
HOLE #:	S-2A
LINE & STA.	
OFFSET:	none

Ground Water Observations				Surface Elev.:	
	Type	Augers	Split Spoon	Date Started:	7/2/96
At none at 0 hours	Size I.D.	3.25"	13/8"	Date Completed:	7/2/96
	Hammer Wt.		140#	Boring Foreman:	Ron Garneau
At at hours	Hammer Fall		30"	Inspector:	Steve Vock
				Soils Eng.:	Civil Eng.

LOCATION OF BORING: As shown

Depth	Casing Blows Per Foot	Sample Depths From/To	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample No.	Rec.	Pen
		0'-2'	SS	11/9/8/5	dry		Fine and medium sand with some small pebbles	1	24"	8"
		2'-4'	SS	7/3/4/3	dry		No recovery pushed stone	2	24"	0'
		4'-6'	SS	3/4/3/4	dry		Brown fine sand into a gray gravel with sand	3	24"	11"
		6'-8'	SS	4/3/5/6	damp		Gray gravel with sand into a fine and medium sand	4	24"	15"
		8'-10'	SS	3/4/5/6	wet		Fine through coarse brown sand	5	24"	18"
		10'-12'	SS	1/2/4/5	wet		Fine through coarse brown sand with small stones and pebbles	6	24"	17"
		12'-14'	SS	6/3/6/9	wet		Fine through coarse brown sand with small stones and pebbles	7	24"	24"
		14'-16'	SS	3/5/6/6	wet		Fine through coarse brown sand with small stones and pebbles	8	24"	24"
		16'-18'	SS	13/23/23/20	wet		Brown fine sand and coarse sand with very small pebbles	9	24"	24"
		18'-20'	SS	19/20/23/27	wet		Brown fine sand and coarse sand with very small pebbles	10	24'	24"
							materials used			
							1 core box			

Ground Surface to 18' | Used 3.25" Augers: Then SS to 20'

SUMMARY: Earth Boring 20' Rock Coring Samples 10 **HOLE #** S-2A

GREEN MOUNTAIN BORING

PO Box 218 ° East Barre, Vermont 05649 ° 802 476-5073

TO: Civil Engineering Associates, Inc.
P.O. Box 485
Shelburne, VT 05482
Attn.: Jim Olsen / Steve Vock

PROJECT NAME: State Building

LOCATION: Newport, VT

GMB JOB #: 96-106

SHEET:	3
DATE:	7/1/96
HOLE #:	S-3A
LINE & STA.	
OFFSET:	none

Ground Water Observations				Surface Elev.:	
	Type	Augers	Split Spoon	Date Started:	7/1/96
At none at 0 hours	Size I.D.	2.50"	13/8"	Date Completed:	7/1/96
	Hammer Wt.		140#	Boring Foreman:	Ron Gameau
At at hours	Hammer Fall		30"	Inspector:	Steve Vock
				Soils Eng.:	Civil Eng.

LOCATION OF BORING: As shown

Depth	Casing Blows Per Foot	Sample Depths From/To	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample No. Rec.	Sample Pen	
		0'-2'	SS	11/8/5/6	dry		Fine sand medium sand with some small stones (fill like material)	1	24"	20"
		2'-4'	SS	6/4/5/4	dry		Fine and medium sand with small stones and a trace of silt	2	24"	12"
		4'-6'	SS	2/2/2/2	damp		Fine and medium sand with small stones and a trace of silt	3	24"	19"
		6'-8'	SS	2/5/10/16	wet		Fine to coarse sand with some traces of silt	4	24"	24"
		8'-10'	SS	4/7/10/10	wet		Fine to coarse sand with some traces of silt	5	24"	18"
		10'-12'	SS	9/9/12/20	wet		Fine to coarse sand with some traces of silt	6	24"	18"
		12'-14'	SS	19/19/19/21	wet		Fine to coarse sand with some traces of silt	7	24"	24"
		14'-16'	SS	3/3/4/3	wet		Fine to coarse sand with some traces of silt	8	24"	24"
		16'-18'	SS	4/1/2/1	wet		Fine to medium sand with a trace of silt	9	24"	24"
		18'-20'	SS	5/4/3/4	wet		Fine to coarse sand with some small stones and trace of silt	10	24'	24"
		20'-22'	SS	4/5/10/15			Fine to coarse sand	11	24"	15"

Ground Surface to 20' | Used 2.50" Augers: Then SS to 22'

SUMMARY: Earth Boring 22' Rock Coring Samples 11 HOLE # S-3A

GREEN MOUNTAIN BORING

PO Box 218 ° East Barre, Vermont 05649 ° 802 476-5073

TO: Civil Engineering Associates, Inc.
P.O. Box 485
Shelburne, VT 05482
Attn.: Jim Olsen / Steve Vock

PROJECT NAME: State Building

LOCATION: Newport, VT

GMB JOB #: 96-106

SHEET:	5
DATE:	7/2/96
HOLE #:	S-6A
LINE & STA.	
OFFSET:	none

Ground Water Observations			
At none at 0 hours	Type	Augers	Split Spoon
	Size I.D.	3.25"	13/8"
At at hours	Hammer Wt.		140#
	Hammer Fall		30"

Surface Elev.:	
Date Started:	7/2/96
Date Completed:	7/2/96
Boring Foreman:	Ron Garneau
Inspector:	Steve Vock
Soils Eng.:	Civil Eng.

LOCATION OF BORING: As shown

Depth	Casing Blows Per Foot	Sample Depths From/To	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample No.	Pen	Rec.
		0'-2'	SS	2/2/2/2	dry		Fine and medium sand with some small stones and pebbles	1	24"	17"
		2'-4'	SS	3/2/1/3	damp		Fine through coarse sand	2	24"	16"
		4'-6'	SS	3/2/2/3	wet		Fine through coarse sand	3	24"	20"
		6'-8'	SS	9/5/20/20	wet		Fine through coarse sand	4	24"	11'
		8'-10'	SS	6/13/11/13	wet		Fine through coarse sand	5	24"	17"
		10'-12'	SS	9/8/8/20	wet		Fine through coarse sand	6	24"	19"
		12'-14'	SS	13/21/21/25	wet		Fine through coarse sand	7	24"	24"
		14'-16'	SS	4/11/16/17	wet		Very fine brown sand	8	24"	24"
		16'-18'	SS	8/9/12/21	wet		Very fine brown sand	9	24"	24"
		18'-20'	SS	8/12/20/20	wet		Fine brown sand	10	24'	24"
		20'-22'	SS	10/9/9/17	wet		Fine brown sand into a silty clay	11	24"	24"
		22'-24'	SS	25/18/18/24	wet		Fine brown sand (flowing sand)	12	24"	24"
							materials used			
							1 core box			

Ground Surface to 22' | Used 3.25" Augers: Then SS to 24'

SUMMARY: Earth Boring 24' Rock Coring Samples 12 **HOLE #** S-6A

GREEN MOUNTAIN BORING

PO Box 218 ° East Barre, Vermont 05649 ° 802 476-5073

TO: Civil Engineering Associates, Inc.
P.O. Box 485
Shelburne, VT 05482
Attn.: Jim Olsen / Steve Vock

PROJECT NAME: State Building

LOCATION: Newport, VT

GMB JOB #: 96-106

SHEET:	10
DATE:	7/10/96
HOLE #:	S-10A
LINE & STA.	
OFFSET:	27' South

Ground Water Observations			
At 3' at 0 hours	Type	Augers	Split Spoon
	Size I.D.	2.50"	13/8"
At at hours	Hammer Wt.		140#
	Hammer Fall		30"

Surface Elev.:	
Date Started:	7/10/96
Date Completed:	7/10/96
Boring Foreman:	Ron Garneau
Inspector:	Jennifer
Soils Eng.:	Civil Eng.

LOCATION OF BORING: As shown

Depth	Casing Blows Per Foot	Sample Depths From/To	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample No.	Rec.	Pen
		0'-2'	SS	3/3/5/6	dry		Silty sand with stones and cinders	1	24"	12"
		2'-4'	SS	5/4/5/5			Fine and medium sand with small stones and a trace of silt	2	24"	24"
		4'-6'	SS	3/2/1/14	wet		Fine silty sand with silt lens	3	24"	17"
		6'-8'	SS	46/8/12/15	wet		Fine and medium sand with small stones and a trace of silt	4	24"	24"
		8'-10'	SS	23/18/20/18	wet		Fine and coarse silty sand with small stones	5	24"	
		10'-12'	SS	20/11/10/12	wet		Fine and coarse silty sand with stones	6	24"	24"
		12'-14'	SS	9/5/8/10	wet		Fine and coarse silty sand with stones into a silty clay	7	24"	24"
							materials used			
							1 core box			

Ground Surface to 12' | Used 2.50' Augers: Then SS to 14'

SUMMARY: Earth Boring 14' Rock Coring Samples 7 **HOLE #** **S-10A**

Appendix C:
Analytical Reports for soil and water sampling on 20 and 21 November 1996

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B7-10

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 319558

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319558V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. _____ Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B9-0-1

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 319561

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319561V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. 14 Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	6	U
74-87-3	Chloromethane	6	U
75-01-4	Vinyl Chloride	6	U
74-83-9	Bromomethane	6	U
75-00-3	Chloroethane	6	U
75-69-4	Trichlorofluoromethane	6	U
67-64-1	Acetone	38	B
75-35-4	1,1-Dichloroethene	6	U
156-60-5	trans-1,2-Dichloroethene	6	U
75-15-0	Carbon Disulfide	6	U
75-09-2	Methylene Chloride	6	U
1634-04-4	Methyl-t-Butyl Ether	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
156-59-2	cis-1,2-Dichloroethene	6	U
590-20-7	2,2-Dichloropropane	6	U
78-93-3	2-Butanone	12	U
67-66-3	Chloroform	6	U
74-97-5	Bromochloromethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
563-58-6	1,1-Dichloropropene	6	U
56-23-5	Carbon Tetrachloride	6	U
107-06-2	1,2-Dichloroethane	6	U
71-43-2	Benzene	6	U
79-01-6	Trichloroethene	6	U
78-87-5	1,2-Dichloropropane	6	U
75-27-4	Bromodichloromethane	6	U
74-95-3	Dibromomethane	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
10061-01-5	cis-1,3-Dichloropropene	6	U
108-88-3	Toluene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
79-00-5	1,1,2-Trichloroethane	6	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B9-0-1

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 319561

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319561V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. 14 Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	6	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B9-0-1RE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 319561R1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319561I2V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. 14 Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	6	U
74-87-3	Chloromethane	6	U
75-01-4	Vinyl Chloride	6	U
74-83-9	Bromomethane	6	U
75-00-3	Chloroethane	6	U
75-69-4	Trichlorofluoromethane	6	U
67-64-1	Acetone	5	J
75-35-4	1,1-Dichloroethene	6	U
156-60-5	trans-1,2-Dichloroethene	6	U
75-15-0	Carbon Disulfide	6	U
75-09-2	Methylene Chloride	6	U
1634-04-4	Methyl-t-Butyl Ether	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
156-59-2	cis-1,2-Dichloroethene	6	U
590-20-7	2,2-Dichloropropane	6	U
78-93-3	2-Butanone	12	U
67-66-3	Chloroform	6	U
74-97-5	Bromochloromethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
563-58-6	1,1-Dichloropropene	6	U
56-23-5	Carbon Tetrachloride	6	U
107-06-2	1,2-Dichloroethane	6	U
71-43-2	Benzene	6	U
79-01-6	Trichloroethene	6	U
78-87-5	1,2-Dichloropropane	6	U
75-27-4	Bromodichloromethane	6	U
74-95-3	Dibromomethane	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
10061-01-5	cis-1,3-Dichloropropene	6	U
108-88-3	Toluene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
79-00-5	1,1,2-Trichloroethane	6	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B9-0-1RE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 319561R1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319561I2V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. 14 Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
591-78-6	2-Hexanone	12	U
142-28-9	1,3-Dichloropropane	6	U
127-18-4	Tetrachloroethene	6	U
123-91-1	1,4-Dioxane	6	U
109-99-9	Tetrahydrofuran	6	U
124-48-1	Dibromochloromethane	6	U
106-93-4	1,2-Dibromoethane	6	U
108-90-7	Chlorobenzene	6	U
630-20-6	1,1,1,2-Tetrachloroethane	6	U
100-41-4	Ethylbenzene	6	U
1330-20-7	Xylene (total)	6	U
100-42-5	Styrene	6	U
75-25-2	Bromoform	6	U
98-82-8	Isopropylbenzene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
96-18-4	1,2,3-Trichloropropane	6	U
108-86-1	Bromobenzene	6	U
103-65-1	n-Propylbenzene	6	U
95-49-8	2-Chlorotoluene	6	U
108-67-8	1,3,5-Trimethylbenzene	21	
106-43-4	4-Chlorotoluene	6	U
98-06-6	tert-Butylbenzene	6	U
95-63-6	1,2,4-Trimethylbenzene	2	J
135-98-8	sec-Butylbenzene	6	U
99-87-6	p-Isopropyltoluene	5	J
541-73-1	1,3-Dichlorobenzene	6	U
106-46-7	1,4-Dichlorobenzene	6	U
104-51-8	n-Butylbenzene	6	U
95-50-1	1,2-Dichlorobenzene	6	U
96-12-8	1,2-Dibromo-3-Chloropropane	6	U
120-82-1	1,2,4-Trichlorobenzene	6	U
87-68-3	Hexachlorobutadiene	6	U
91-20-3	Naphthalene	3	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B9-0-1RE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 319561R1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319561I2V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. 14 Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	6	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B9-7

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 319562

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319562V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. 9 Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
67-64-1	Acetone	80	B
75-35-4	1,1-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
1634-04-4	Methyl-t-Butyl Ether	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
590-20-7	2,2-Dichloropropane	5	U
78-93-3	2-Butanone	18	
67-66-3	Chloroform	5	U
74-97-5	Bromochloromethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
563-58-6	1,1-Dichloropropene	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
74-95-3	Dibromomethane	5	U
108-10-1	4-Methyl-2-Pentanone	11	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B9-7

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 319562

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319562V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. 9 Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKG6

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKG6

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWB002BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/25/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
67-64-1	Acetone	10	
75-35-4	1,1-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
1634-04-4	Methyl-t-Butyl Ether	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
590-20-7	2,2-Dichloropropane	5	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	5	U
74-97-5	Bromochloromethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
563-58-6	1,1-Dichloropropene	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
74-95-3	Dibromomethane	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKG6

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKG6

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWB002BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/25/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
591-78-6	2-Hexanone	10	U
142-28-9	1,3-Dichloropropane	5	U
127-18-4	Tetrachloroethene	5	U
123-91-1	1,4-Dioxane	5	U
109-99-9	Tetrahydrofuran	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
108-86-1	Bromobenzene	5	U
103-65-1	n-Propylbenzene	5	U
95-49-8	2-Chlorotoluene	5	U
108-67-8	1,3,5-Trimethylbenzene	5	U
106-43-4	4-Chlorotoluene	5	U
98-06-6	tert-Butylbenzene	5	U
95-63-6	1,2,4-Trimethylbenzene	5	U
135-98-8	sec-Butylbenzene	5	U
99-87-6	p-Isopropyltoluene	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
104-51-8	n-Butylbenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
87-68-3	Hexachlorobutadiene	5	U
91-20-3	Naphthalene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKG6

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKG6

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWB002BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/25/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKJ2

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKJ2

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWB001DV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
67-64-1	Acetone	15	
75-35-4	1,1-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
1634-04-4	Methyl-t-Butyl Ether	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
590-20-7	2,2-Dichloropropane	5	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	5	U
74-97-5	Bromochloromethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
563-58-6	1,1-Dichloropropene	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
74-95-3	Dibromomethane	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKJ2

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKJ2

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWB001DV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	1	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKH7

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKH7

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWB002EV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
1634-04-4	Methyl-t-Butyl Ether	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
590-20-7	2,2-Dichloropropane	5	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	5	U
74-97-5	Bromochloromethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
563-58-6	1,1-Dichloropropene	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
74-95-3	Dibromomethane	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKH7

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKH7

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWB002EV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
591-78-6	2-Hexanone	10	U
142-28-9	1,3-Dichloropropane	5	U
127-18-4	Tetrachloroethene	5	U
123-91-1	1,4-Dioxane	5	U
109-99-9	Tetrahydrofuran	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
108-86-1	Bromobenzene	5	U
103-65-1	n-Propylbenzene	5	U
95-49-8	2-Chlorotoluene	5	U
108-67-8	1,3,5-Trimethylbenzene	5	U
106-43-4	4-Chlorotoluene	5	U
98-06-6	tert-Butylbenzene	5	U
95-63-6	1,2,4-Trimethylbenzene	5	U
135-98-8	sec-Butylbenzene	5	U
99-87-6	p-Isopropyltoluene	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
104-51-8	n-Butylbenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
87-68-3	Hexachlorobutadiene	5	U
91-20-3	Naphthalene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKH7

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKH7

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWB002EV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKL3

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) WATER Lab Sample ID: VBLKL3

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: MKTB001BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/04/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl Chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
67-64-1	Acrolein	5.0	U
76-13-1	Freon TF	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Methyl Iodide	2.0	U
75-15-0	Carbon Disulfide	1.0	U
107-05-1	Allyl Chloride	2.0	U
75-09-2	Methylene Chloride	1.0	U
107-13-1	Acrylonitrile	2.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
540-59-0	1,2-Dichloroethene (total)	1.0	U
1634-04-4	Methyl-t-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl Acetate	2.0	U
126-99-8	Chloroprene	2.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone	5.0	U
107-12-0	Propionitrile	2.0	U
126-98-7	Methacrylonitrile	1.0	U
74-97-5	Bromochloromethane	1.0	U
109-99-9	Tetrahydrofuran	50	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
78-83-1	Isobutyl Alcohol	50	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKL3

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) WATER Lab Sample ID: VBLKL3

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: MKTB001BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/04/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
87-68-3	Hexachlorobutadiene	1.0	U
91-20-3	Naphthalene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWBLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWBLCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWQ001BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/25/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	20	
74-87-3	Chloromethane	13	
75-01-4	Vinyl Chloride	13	
74-83-9	Bromomethane	14	
75-00-3	Chloroethane	12	
75-69-4	Trichlorofluoromethane	16	
67-64-1	Acetone	12	B
75-35-4	1,1-Dichloroethene	12	
156-60-5	trans-1,2-Dichloroethene	12	
75-15-0	Carbon Disulfide	10	
75-09-2	Methylene Chloride	12	
1634-04-4	Methyl-t-Butyl Ether	11	
75-34-3	1,1-Dichloroethane	11	
540-59-0	1,2-Dichloroethene (total)	23	
156-59-2	cis-1,2-Dichloroethene	12	
590-20-7	2,2-Dichloropropane	12	
78-93-3	2-Butanone	11	
67-66-3	Chloroform	11	
74-97-5	Bromochloromethane	12	
71-55-6	1,1,1-Trichloroethane	12	
563-58-6	1,1-Dichloropropene	11	
56-23-5	Carbon Tetrachloride	11	
107-06-2	1,2-Dichloroethane	11	
71-43-2	Benzene	11	
79-01-6	Trichloroethene	12	
78-87-5	1,2-Dichloropropane	11	
75-27-4	Bromodichloromethane	11	
74-95-3	Dibromomethane	11	
108-10-1	4-Methyl-2-Pentanone	11	
10061-01-5	cis-1,3-Dichloropropene	11	
108-88-3	Toluene	11	
10061-02-6	trans-1,3-Dichloropropene	11	
79-00-5	1,1,2-Trichloroethane	10	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWBLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWBLCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWQ001BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/25/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
591-78-6	2-Hexanone	12	
142-28-9	1,3-Dichloropropane	11	
127-18-4	Tetrachloroethene	11	
123-91-1	1,4-Dioxane	5	U
109-99-9	Tetrahydrofuran	5	U
124-48-1	Dibromochloromethane	10	
106-93-4	1,2-Dibromoethane	10	
108-90-7	Chlorobenzene	11	
630-20-6	1,1,1,2-Tetrachloroethane	11	
100-41-4	Ethylbenzene	11	
1330-20-7	Xylene (total)	33	
100-42-5	Styrene	11	
75-25-2	Bromoform	10	
98-82-8	Isopropylbenzene	11	
79-34-5	1,1,2,2-Tetrachloroethane	10	
96-18-4	1,2,3-Trichloropropane	11	
108-86-1	Bromobenzene	11	
103-65-1	n-Propylbenzene	11	
95-49-8	2-Chlorotoluene	11	
108-67-8	1,3,5-Trimethylbenzene	11	
106-43-4	4-Chlorotoluene	11	
98-06-6	tert-Butylbenzene	11	
95-63-6	1,2,4-Trimethylbenzene	11	
135-98-8	sec-Butylbenzene	11	
99-87-6	p-Isopropyltoluene	11	
541-73-1	1,3-Dichlorobenzene	11	
106-46-7	1,4-Dichlorobenzene	11	
104-51-8	n-Butylbenzene	11	
95-50-1	1,2-Dichlorobenzene	11	
96-12-8	1,2-Dibromo-3-Chloropropane	11	
120-82-1	1,2,4-Trichlorobenzene	11	
87-68-3	Hexachlorobutadiene	11	
91-20-3	Naphthalene	12	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWBLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWBLCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWQ001BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/25/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	12	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWDLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWDLCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHW010DQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	31	
74-87-3	Chloromethane	17	
75-01-4	Vinyl Chloride	16	
74-83-9	Bromomethane	14	
75-00-3	Chloroethane	13	
75-69-4	Trichlorofluoromethane	15	
67-64-1	Acetone	30	B
75-35-4	1,1-Dichloroethene	12	
156-60-5	trans-1,2-Dichloroethene	12	
75-15-0	Carbon Disulfide	11	
75-09-2	Methylene Chloride	11	
1634-04-4	Methyl-t-Butyl Ether	11	
75-34-3	1,1-Dichloroethane	11	
540-59-0	1,2-Dichloroethene (total)	24	
156-59-2	cis-1,2-Dichloroethene	11	
590-20-7	2,2-Dichloropropane	12	
78-93-3	2-Butanone	18	
67-66-3	Chloroform	12	
74-97-5	Bromochloromethane	11	
71-55-6	1,1,1-Trichloroethane	12	
563-58-6	1,1-Dichloropropene	12	
56-23-5	Carbon Tetrachloride	11	
107-06-2	1,2-Dichloroethane	12	
71-43-2	Benzene	11	
79-01-6	Trichloroethene	11	
78-87-5	1,2-Dichloropropane	11	
75-27-4	Bromodichloromethane	11	
74-95-3	Dibromomethane	12	
108-10-1	4-Methyl-2-Pentanone	24	
10061-01-5	cis-1,3-Dichloropropene	11	
108-88-3	Toluene	11	
10061-02-6	trans-1,3-Dichloropropene	12	
79-00-5	1,1,2-Trichloroethane	12	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWDLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWDLCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHW010DQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	14	B

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWELCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWELCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHW010EQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	34	
74-87-3	Chloromethane	17	
75-01-4	Vinyl Chloride	15	
74-83-9	Bromomethane	15	
75-00-3	Chloroethane	13	
75-69-4	Trichlorofluoromethane	12	
67-64-1	Acetone	14	
75-35-4	1,1-Dichloroethene	11	
156-60-5	trans-1,2-Dichloroethene	11	
75-15-0	Carbon Disulfide	14	
75-09-2	Methylene Chloride	11	
1634-04-4	Methyl-t-Butyl Ether	10	
75-34-3	1,1-Dichloroethane	10	
540-59-0	1,2-Dichloroethene (total)	22	
156-59-2	cis-1,2-Dichloroethene	11	
590-20-7	2,2-Dichloropropane	11	
78-93-3	2-Butanone	20	
67-66-3	Chloroform	10	
74-97-5	Bromochloromethane	10	
71-55-6	1,1,1-Trichloroethane	10	
563-58-6	1,1-Dichloropropene	11	
56-23-5	Carbon Tetrachloride	10	
107-06-2	1,2-Dichloroethane	10	
71-43-2	Benzene	10	
79-01-6	Trichloroethene	11	
78-87-5	1,2-Dichloropropane	10	
75-27-4	Bromodichloromethane	10	
74-95-3	Dibromomethane	10	
108-10-1	4-Methyl-2-Pentanone	21	
10061-01-5	cis-1,3-Dichloropropene	10	
108-88-3	Toluene	10	
10061-02-6	trans-1,3-Dichloropropene	10	
79-00-5	1,1,2-Trichloroethane	9	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWELCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWELCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHW010EQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
591-78-6	2-Hexanone	19	
142-28-9	1,3-Dichloropropane	10	
127-18-4	Tetrachloroethene	10	
123-91-1	1,4-Dioxane	5	U
109-99-9	Tetrahydrofuran	170	
124-48-1	Dibromochloromethane	9	
106-93-4	1,2-Dibromoethane	9	
108-90-7	Chlorobenzene	10	
630-20-6	1,1,1,2-Tetrachloroethane	10	
100-41-4	Ethylbenzene	10	
1330-20-7	Xylene (total)	30	
100-42-5	Styrene	10	
75-25-2	Bromoform	9	
98-82-8	Isopropylbenzene	10	
79-34-5	1,1,2,2-Tetrachloroethane	9	
96-18-4	1,2,3-Trichloropropane	9	
108-86-1	Bromobenzene	10	
103-65-1	n-Propylbenzene	10	
95-49-8	2-Chlorotoluene	10	
108-67-8	1,3,5-Trimethylbenzene	10	
106-43-4	4-Chlorotoluene	10	
98-06-6	tert-Butylbenzene	10	
95-63-6	1,2,4-Trimethylbenzene	10	
135-98-8	sec-Butylbenzene	10	
99-87-6	p-Isopropyltoluene	10	
541-73-1	1,3-Dichlorobenzene	10	
106-46-7	1,4-Dichlorobenzene	10	
104-51-8	n-Butylbenzene	10	
95-50-1	1,2-Dichlorobenzene	10	
96-12-8	1,2-Dibromo-3-Chloropropane	9	
120-82-1	1,2,4-Trichlorobenzene	11	
87-68-3	Hexachlorobutadiene	10	
91-20-3	Naphthalene	11	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWELCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWELCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHW010EQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	12	

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

	EPA SAMPLE NO.	SMC1 (DCE) #	SMC2 (BFB) #	SMC3 (DCB) #	OTHER	TOT OUT
01	VBLKL3	84	108	91		0
02	B7-8	85	113	94		0
03	0.5MKYBLCS	88	104	87		0
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
SMC1 (DCE) = 1,2-Dichloroethane-d4	(80-120)
SMC2 (BFB) = Bromofluorobenzene	(86-115)
SMC3 (DCB) = 1,2-Dichlorobenzene-d4	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Level: (low/med) LOW

	EPA SAMPLE NO.	SMC1 (DCE) #	SMC2 (BFB) #	SMC3 (DCB) #	OTHER	TOT OUT
01	OHWBLCS	102	108	106		0
02	VBLKG6	96	106	104		0
03	B7SURFACE	116	163*	88		1
04	OHWDLCS	96	102	101		0
05	VBLKJ2	98	105	103		0
06	B7SURFACERE	128*	165*	95		2
07	B7-10	95	103	102		0
08	B9-0-1	107	133*	100		1
09	B9-7	94	110	100		0
10	OHWELCS	98	104	102		0
11	VBLKH7	98	104	101		0
12	B9-0-1RE	95	125*	96		1
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(80-120)
SMC2 (BFB)	= Bromofluorobenzene	(74-121)
SMC3 (DCB)	= 1,2-Dichlorobenzene-d4	(80-120)

Column to be used tc flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - Sample No.: OHWBLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
o-Xylene	10		11	110	60-140
m- & p-Xylene	20		22	110	60-140
Dichlorodifluoromethane	10		20	200*	60-140
Chloromethane	10		13	130	60-140
Vinyl Chloride	10		13	130	60-140
Bromomethane	10		14	140	60-140
Chloroethane	10		12	120	60-140
Trichlorofluoromethane	10		16	160*	60-140
Acetone	25		12	48*	60-140
1,1-Dichloroethene	10		12	120	70-125
trans-1,2-Dichloroethen	10		12	120	75-125
Carbon Disulfide	10		10	100	60-140
Methylene Chloride	10		12	120	60-140
Methyl-t-Butyl Ether	10		11	110	60-140
1,1-Dichloroethane	10		11	110	60-140
1,2-Dichloroethene (tot	20		23	115	60-140
cis-1,2-Dichloroethene	10		12	120	60-140
2,2-Dichloropropane	10		12	120	60-140
2-Butanone	25		11	44*	60-140
Chloroform	10		11	110	60-140
Bromochloromethane	10		12	120	60-140
1,1,1-Trichloroethane	10		12	120	75-125
1,1-Dichloropropene	10		11	110	60-140
Carbon Tetrachloride	10		11	110	60-140
1,2-Dichloroethane	10		11	110	75-125
Benzene	10		11	110	70-115
Trichloroethene	10		12	120	70-125
1,2-Dichloropropane	10		11	110	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - Sample No.: OHWBLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Bromodichloromethane	10		11	110	60-140
Dibromomethane	10		11	110	60-140
4-Methyl-2-Pentanone	25		11	44*	60-140
cis-1,3-Dichloropropene	10		11	110	60-140
Toluene	10		11	110	80-115
trans-1,3-Dichloroprope	10		11	110	60-140
1,1,2-Trichloroethane	10		10	100	60-140
2-Hexanone	25		12	48*	60-140
1,3-Dichloropropane	10		11	110	60-140
Tetrachloroethene	10		11	110	75-125
1,4-Dioxane					60-140
Tetrahydrofuran					60-140
Dibromochloromethane	10		10	100	60-140
1,2-Dibromoethane	10		10	100	60-140
Chlorobenzene	10		11	110	70-125
1,1,1,2-Tetrachloroetha	10		11	110	60-140
Ethylbenzene	10		11	110	75-125
Xylene (total)	30		33	110	75-125
Styrene	10		11	110	60-140
Bromoform	10		10	100	60-140
Isopropylbenzene	10		11	110	60-140
1,1,2,2-Tetrachloroetha	10		10	100	60-140
1,2,3-Trichloropropane	10		11	110	60-140
Bromobenzene	10		11	110	60-140
n-Propylbenzene	10		11	110	60-140
2-Chlorotoluene	10		11	110	60-140
1,3,5-Trimethylbenzene	10		11	110	60-140
4-Chlorotoluene	10		11	110	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - Sample No.: OHWBLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
tert-Butylbenzene	10		11	110	60-140
1,2,4-Trimethylbenzene	10		11	110	60-140
sec-Butylbenzene	10		11	110	60-140
p-Isopropyltoluene	10		11	110	60-140
1,3-Dichlorobenzene	10		11	110	60-140
1,4-Dichlorobenzene	10		11	110	60-140
n-Butylbenzene	10		11	110	60-140
1,2-Dichlorobenzene	10		11	110	60-140
1,2-Dibromo-3-Chloropro	10		11	110	60-140
1,2,4-Trichlorobenzene	10		11	110	60-140
Hexachlorobutadiene	10		11	110	60-140
Naphthalene	10		12	120	60-140
1,2,3-Trichlorobenzene	10		12	120	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits.
Spike Recovery: 6 out of 69 outside limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: OHWDLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
o-Xylene	10		11	110	60-140
m- & p-Xylene	20		23	115	60-140
Dichlorodifluoromethane	10		31	310*	60-140
Chloromethane	10		17	170*	60-140
Vinyl Chloride	10		16	160*	60-140
Bromomethane	10		14	140	60-140
Chloroethane	10		13	130	60-140
Trichlorofluoromethane	10		15	150*	60-140
Acetone	25		30	120	60-140
1,1-Dichloroethene	10		12	120	70-125
trans-1,2-Dichloroethen	10		12	120	75-125
Carbon Disulfide	10		11	110	60-140
Methylene Chloride	10		11	110	60-140
Methyl-t-Butyl Ether	10		11	110	60-140
1,1-Dichloroethane	10		11	110	60-140
1,2-Dichloroethene (tot	20		24	120	60-140
cis-1,2-Dichloroethene	10		11	110	60-140
2,2-Dichloropropane	10		12	120	60-140
2-Butanone	25		18	72	60-140
Chloroform	10		12	120	60-140
Bromochloromethane	10		11	110	60-140
1,1,1-Trichloroethane	10		12	120	75-125
1,1-Dichloropropene	10		12	120	60-140
Carbon Tetrachloride	10		11	110	60-140
1,2-Dichloroethane	10		12	120	75-125
Benzene	10		11	110	70-115
Trichloroethene	10		11	110	70-125
1,2-Dichloropropane	10		11	110	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: OHWDLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Bromodichloromethane	10		11	110	60-140
Dibromomethane	10		12	120	60-140
4-Methyl-2-Pentanone	25		24	96	60-140
cis-1,3-Dichloropropene	10		11	110	60-140
Toluene	10		11	110	80-115
trans-1,3-Dichloroprope	10		12	120	60-140
1,1,2-Trichloroethane	10		12	120	60-140
2-Hexanone	25		25	100	60-140
1,3-Dichloropropane	10		11	110	60-140
Tetrachloroethene	10		12	120	75-125
1,4-Dioxane					60-140
Tetrahydrofuran	250		190	76	60-140
Dibromochloromethane	10		11	110	60-140
1,2-Dibromoethane	10		11	110	60-140
Chlorobenzene	10		12	120	70-125
1,1,1,2-Tetrachloroetha	10		11	110	60-140
Ethylbenzene	10		12	120	75-125
Xylene (total)	30		34	113	75-125
Styrene	10		11	110	60-140
Bromoform	10		11	110	60-140
Isopropylbenzene	10		12	120	60-140
1,1,2,2-Tetrachloroetha	10		12	120	60-140
1,2,3-Trichloropropane	10		12	120	60-140
Bromobenzene	10		12	120	60-140
n-Propylbenzene	10		12	120	60-140
2-Chlorotoluene	10		12	120	60-140
1,3,5-Trimethylbenzene	10		12	120	60-140
4-Chlorotoluene	10		12	120	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: OHWDLCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
tert-Butylbenzene	10		12	120	60-140
1,2,4-Trimethylbenzene	10		12	120	60-140
sec-Butylbenzene	10		12	120	60-140
p-Isopropyltoluene	10		12	120	60-140
1,3-Dichlorobenzene	10		12	120	60-140
1,4-Dichlorobenzene	10		12	120	60-140
n-Butylbenzene	10		13	130	60-140
1,2-Dichlorobenzene	10		12	120	60-140
1,2-Dibromo-3-Chloropro	10		12	120	60-140
1,2,4-Trichlorobenzene	10		13	130	60-140
Hexachlorobutadiene	10		14	140	60-140
Naphthalene	10		13	130	60-140
1,2,3-Trichlorobenzene	10		14	140	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 4 out of 69 outside limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: OHWELCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	10		10	100	60-140
4-Methyl-2-Pentanone	25		21	84	60-140
cis-1,3-Dichloropropene	10		10	100	60-140
Toluene	10		10	100	60-140
trans-1,3-Dichloroprope	10		10	100	60-140
1,1,2-Trichloroethane	10		9	90	60-140
2-Hexanone	25		19	76	60-140
1,3-Dichloropropane	10		10	100	60-140
Tetrachloroethene	10		10	100	60-140
1,4-Dioxane					60-140
Tetrahydrofuran	50		170	340*	60-140
Dibromochloromethane	10		9	90	60-140
1,2-Dibromoethane	10		9	90	60-140
Chlorobenzene	10		10	100	60-140
1,1,1,2-Tetrachloroetha	10		10	100	60-140
Ethylbenzene	10		10	100	60-140
Styrene	10		10	100	60-140
Bromoform	10		9	90	60-140
Isopropylbenzene	10		10	100	60-140
1,1,2,2-Tetrachloroetha	10		9	90	60-140
1,2,3-Trichloropropane	10		9	90	60-140
Bromobenzene	10		10	100	60-140
n-Propylbenzene	10		10	100	60-140
2-Chlorotoluene	10		10	100	60-140
1,3,5-Trimethylbenzene	10		10	100	60-140
4-Chlorotoluene	10		10	100	60-140
tert-Butylbenzene	10		10	100	60-140
1,2,4-Trimethylbenzene	10		10	100	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: OHWELCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
sec-Butylbenzene	10		10	100	60-140
p-Isopropyltoluene	10		10	100	60-140
1,3-Dichlorobenzene	10		10	100	60-140
1,4-Dichlorobenzene	10		10	100	60-140
n-Butylbenzene	10		10	100	60-140
1,2-Dichlorobenzene	10		10	100	60-140
1,2-Dibromo-3-Chloropro	10		9	90	60-140
1,2,4-Trichlorobenzene	10		11	110	60-140
Hexachlorobutadiene	10		10	100	60-140
Naphthalene	10		11	110	60-140
1,2,3-Trichlorobenzene	10		12	120	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 6 out of 67 outside limits

COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKG6

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Lab File ID: OHWB002BV Lab Sample ID: VBLKG6

Date Analyzed: 11/25/96 Time Analyzed: 1155

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: O

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	OHWBLCS	OHWBLCS	OHWQ001BV	1041
02	B7SURFACE	319556	O319556V	1944
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKJ2

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Lab File ID: OHWB001DV Lab Sample ID: VBLKJ2

Date Analyzed: 11/27/96 Time Analyzed: 1910

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: O

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	OHWDLCS	OHWDLCS	OHW010DQV	1835
02	B7SURFACERE	319556R1	O319556I2V	2135
03	B7-10	319558	O319558V	2206
04	B9-0-1	319561	O319561V	2236
05	B9-7	319562	O319562V	2307
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKJ2

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKJ2

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWB001DV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
591-78-6	2-Hexanone	10	U
142-28-9	1,3-Dichloropropane	5	U
127-18-4	Tetrachloroethene	5	U
123-91-1	1,4-Dioxane	5	U
109-99-9	Tetrahydrofuran	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
108-86-1	Bromobenzene	5	U
103-65-1	n-Propylbenzene	5	U
95-49-8	2-Chlorotoluene	5	U
108-67-8	1,3,5-Trimethylbenzene	5	U
106-43-4	4-Chlorotoluene	5	U
98-06-6	tert-Butylbenzene	5	U
95-63-6	1,2,4-Trimethylbenzene	5	U
135-98-8	sec-Butylbenzene	5	U
99-87-6	p-Isopropyltoluene	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
104-51-8	n-Butylbenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
87-68-3	Hexachlorobutadiene	5	U
91-20-3	Naphthalene	2	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKJ2

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKJ2

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWB001DV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	1	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKH7

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKH7

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWB002EV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
1634-04-4	Methyl-t-Butyl Ether	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
590-20-7	2,2-Dichloropropane	10	U
78-93-3	2-Butanone	5	U
67-66-3	Chloroform	5	U
74-97-5	Bromochloromethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
563-58-6	1,1-Dichloropropene	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
74-95-3	Dibromomethane	10	U
108-10-1	4-Methyl-2-Pentanone	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKH7

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKH7

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWB002EV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
591-78-6	2-Hexanone	10	U
142-28-9	1,3-Dichloropropane	5	U
127-18-4	Tetrachloroethene	5	U
123-91-1	1,4-Dioxane	5	U
109-99-9	Tetrahydrofuran	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
108-86-1	Bromobenzene	5	U
103-65-1	n-Propylbenzene	5	U
95-49-8	2-Chlorotoluene	5	U
108-67-8	1,3,5-Trimethylbenzene	5	U
106-43-4	4-Chlorotoluene	5	U
98-06-6	tert-Butylbenzene	5	U
95-63-6	1,2,4-Trimethylbenzene	5	U
135-98-8	sec-Butylbenzene	5	U
99-87-6	p-Isopropyltoluene	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
104-51-8	n-Butylbenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
87-68-3	Hexachlorobutadiene	5	U
91-20-3	Naphthalene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKH7

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKH7

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWB002EV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKL3

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) WATER Lab Sample ID: VBLKL3

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: MKTB001BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/04/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl Chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
67-64-1	Acrolein	5.0	U
76-13-1	Freon TF	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Methyl Iodide	2.0	U
75-15-0	Carbon Disulfide	1.0	U
107-05-1	Allyl Chloride	2.0	U
75-09-2	Methylene Chloride	1.0	U
107-13-1	Acrylonitrile	2.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
540-59-0	1,2-Dichloroethene (total)	1.0	U
1634-04-4	Methyl-t-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl Acetate	2.0	U
126-99-8	Chloroprene	2.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone	5.0	U
107-12-0	Propionitrile	2.0	U
126-98-7	Methacrylonitrile	1.0	U
74-97-5	Bromochloromethane	1.0	U
109-99-9	Tetrahydrofuran	50	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
78-83-1	Isobutyl Alcohol	50	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKL3

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) WATER Lab Sample ID: VBLKL3

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: MKTB001BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/04/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
80-62-6	Methyl Methacrylate	1.0	U
74-95-3	Dibromomethane	1.0	U
123-91-1	1,4-Dioxane	50	U
75-27-4	Bromodichloromethane	1.0	U
110-75-8	2-Chloroethyl Vinyl Ether	2.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
97-63-2	Ethyl Methacrylate	2.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
1330-20-7	Xylene (total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
1476-11-5	cis-1,4-Dichloro-2-butene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	2.0	U
96-12-8	1,2-Dibromo-3-Chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene		

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKL3

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVf Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) WATER Lab Sample ID: VBLKL3

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: MKTB001BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/04/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
87-68-3	Hexachlorobutadiene	1.0	U
91-20-3	Naphthalene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWBLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWBLCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWQ001BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/25/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	20	
74-87-3	Chloromethane	13	
75-01-4	Vinyl Chloride	13	
74-83-9	Bromomethane	14	
75-00-3	Chloroethane	12	
75-69-4	Trichlorofluoromethane	16	
67-64-1	Acetone	12	B
75-35-4	1,1-Dichloroethene	12	
156-60-5	trans-1,2-Dichloroethene	12	
75-15-0	Carbon Disulfide	10	
75-09-2	Methylene Chloride	12	
1634-04-4	Methyl-t-Butyl Ether	11	
75-34-3	1,1-Dichloroethane	11	
540-59-0	1,2-Dichloroethene (total)	23	
156-59-2	cis-1,2-Dichloroethene	12	
590-20-7	2,2-Dichloropropane	12	
78-93-3	2-Butanone	11	
67-66-3	Chloroform	11	
74-97-5	Bromochloromethane	12	
71-55-6	1,1,1-Trichloroethane	12	
563-58-6	1,1-Dichloropropene	11	
56-23-5	Carbon Tetrachloride	11	
107-06-2	1,2-Dichloroethane	11	
71-43-2	Benzene	11	
79-01-6	Trichloroethene	12	
78-87-5	1,2-Dichloropropane	11	
75-27-4	Bromodichloromethane	11	
74-95-3	Dibromomethane	11	
108-10-1	4-Methyl-2-Pentanone	11	
10061-01-5	cis-1,3-Dichloropropene	11	
108-88-3	Toluene	11	
10061-02-6	trans-1,3-Dichloropropene	11	
79-00-5	1,1,2-Trichloroethane	10	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWBLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWBLCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWQ001BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/25/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
591-78-6	2-Hexanone	12	
142-28-9	1,3-Dichloropropane	11	
127-18-4	Tetrachloroethene	11	
123-91-1	1,4-Dioxane	5	U
109-99-9	Tetrahydrofuran	5	U
124-48-1	Dibromochloromethane	10	
106-93-4	1,2-Dibromoethane	10	
108-90-7	Chlorobenzene	11	
630-20-6	1,1,1,2-Tetrachloroethane	11	
100-41-4	Ethylbenzene	11	
1330-20-7	Xylene (total)	33	
100-42-5	Styrene	11	
75-25-2	Bromoform	10	
98-82-8	Isopropylbenzene	11	
79-34-5	1,1,2,2-Tetrachloroethane	10	
96-18-4	1,2,3-Trichloropropane	11	
108-86-1	Bromobenzene	11	
103-65-1	n-Propylbenzene	11	
95-49-8	2-Chlorotoluene	11	
108-67-8	1,3,5-Trimethylbenzene	11	
106-43-4	4-Chlorotoluene	11	
98-06-6	tert-Butylbenzene	11	
95-63-6	1,2,4-Trimethylbenzene	11	
135-98-8	sec-Butylbenzene	11	
99-87-6	p-Isopropyltoluene	11	
541-73-1	1,3-Dichlorobenzene	11	
106-46-7	1,4-Dichlorobenzene	11	
104-51-8	n-Butylbenzene	11	
95-50-1	1,2-Dichlorobenzene	11	
96-12-8	1,2-Dibromo-3-Chloropropane	11	
120-82-1	1,2,4-Trichlorobenzene	11	
87-68-3	Hexachlorobutadiene	11	
91-20-3	Naphthalene	12	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWBLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWBLCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHWQ001BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/25/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	12	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWDLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWDLCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHW010DQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	31	
74-87-3	Chloromethane	17	
75-01-4	Vinyl Chloride	16	
74-83-9	Bromomethane	14	
75-00-3	Chloroethane	13	
75-69-4	Trichlorofluoromethane	15	
67-64-1	Acetone	30	B
75-35-4	1,1-Dichloroethene	12	
156-60-5	trans-1,2-Dichloroethene	12	
75-15-0	Carbon Disulfide	11	
75-09-2	Methylene Chloride	11	
1634-04-4	Methyl-t-Butyl Ether	11	
75-34-3	1,1-Dichloroethane	11	
540-59-0	1,2-Dichloroethene (total)	24	
156-59-2	cis-1,2-Dichloroethene	11	
590-20-7	2,2-Dichloropropane	12	
78-93-3	2-Butanone	18	
67-66-3	Chloroform	12	
74-97-5	Bromochloromethane	11	
71-55-6	1,1,1-Trichloroethane	12	
563-58-6	1,1-Dichloropropene	12	
56-23-5	Carbon Tetrachloride	11	
107-06-2	1,2-Dichloroethane	12	
71-43-2	Benzene	11	
79-01-6	Trichloroethene	11	
78-87-5	1,2-Dichloropropane	11	
75-27-4	Bromodichloromethane	11	
74-95-3	Dibromomethane	12	
108-10-1	4-Methyl-2-Pentanone	24	
10061-01-5	cis-1,3-Dichloropropene	11	
108-88-3	Toluene	11	
10061-02-6	trans-1,3-Dichloropropene	12	
79-00-5	1,1,2-Trichloroethane	12	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWDLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWDLCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHW010DQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
591-78-6	2-Hexanone	25	
142-28-9	1,3-Dichloropropane	11	
127-18-4	Tetrachloroethene	12	
123-91-1	1,4-Dioxane	5	U
109-99-9	Tetrahydrofuran	190	
124-48-1	Dibromochloromethane	11	
106-93-4	1,2-Dibromoethane	11	
108-90-7	Chlorobenzene	12	
630-20-6	1,1,1,2-Tetrachloroethane	11	
100-41-4	Ethylbenzene	12	
1330-20-7	Xylene (total)	34	
100-42-5	Styrene	11	
75-25-2	Bromoform	11	
98-82-8	Isopropylbenzene	12	
79-34-5	1,1,2,2-Tetrachloroethane	12	
96-18-4	1,2,3-Trichloropropane	12	
108-86-1	Bromobenzene	12	
103-65-1	n-Propylbenzene	12	
95-49-8	2-Chlorotoluene	12	
108-67-8	1,3,5-Trimethylbenzene	12	
106-43-4	4-Chlorotoluene	12	
98-06-6	tert-Butylbenzene	12	
95-63-6	1,2,4-Trimethylbenzene	12	
135-98-8	sec-Butylbenzene	12	
99-87-6	p-Isopropyltoluene	12	
541-73-1	1,3-Dichlorobenzene	12	
106-46-7	1,4-Dichlorobenzene	13	
104-51-8	n-Butylbenzene	12	
95-50-1	1,2-Dichlorobenzene	12	
96-12-8	1,2-Dibromo-3-Chloropropane	13	
120-82-1	1,2,4-Trichlorobenzene	14	
87-68-3	Hexachlorobutadiene	13	B
91-20-3	Naphthalene		

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWDLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWDLCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHW010DQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/27/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	14	B

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWELCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWELCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHW010EQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	34	
74-87-3	Chloromethane	17	
75-01-4	Vinyl Chloride	15	
74-83-9	Bromomethane	15	
75-00-3	Chloroethane	13	
75-69-4	Trichlorofluoromethane	12	
67-64-1	Acetone	14	
75-35-4	1,1-Dichloroethene	11	
156-60-5	trans-1,2-Dichloroethene	11	
75-15-0	Carbon Disulfide	14	
75-09-2	Methylene Chloride	11	
1634-04-4	Methyl-t-Butyl Ether	10	
75-34-3	1,1-Dichloroethane	10	
540-59-0	1,2-Dichloroethene (total)	22	
156-59-2	cis-1,2-Dichloroethene	11	
590-20-7	2,2-Dichloropropane	11	
78-93-3	2-Butanone	20	
67-66-3	Chloroform	10	
74-97-5	Bromochloromethane	10	
71-55-6	1,1,1-Trichloroethane	10	
563-58-6	1,1-Dichloropropene	11	
56-23-5	Carbon Tetrachloride	10	
107-06-2	1,2-Dichloroethane	10	
71-43-2	Benzene	10	
79-01-6	Trichloroethene	11	
78-87-5	1,2-Dichloropropane	10	
75-27-4	Bromodichloromethane	10	
74-95-3	Dibromomethane	10	
108-10-1	4-Methyl-2-Pentanone	21	
10061-01-5	cis-1,3-Dichloropropene	10	
108-88-3	Toluene	10	
10061-02-6	trans-1,3-Dichloropropene	10	
79-00-5	1,1,2-Trichloroethane	9	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWELCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWELCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHW010EQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
591-78-6	2-Hexanone	19	
142-28-9	1,3-Dichloropropane	10	
127-18-4	Tetrachloroethene	10	
123-91-1	1,4-Dioxane	5	U
109-99-9	Tetrahydrofuran	170	
124-48-1	Dibromochloromethane	9	
106-93-4	1,2-Dibromoethane	9	
108-90-7	Chlorobenzene	10	
630-20-6	1,1,1,2-Tetrachloroethane	10	
100-41-4	Ethylbenzene	10	
1330-20-7	Xylene (total)	30	
100-42-5	Styrene	10	
75-25-2	Bromoform	9	
98-82-8	Isopropylbenzene	10	
79-34-5	1,1,2,2-Tetrachloroethane	9	
96-18-4	1,2,3-Trichloropropane	9	
108-86-1	Bromobenzene	10	
103-65-1	n-Propylbenzene	10	
95-49-8	2-Chlorotoluene	10	
108-67-8	1,3,5-Trimethylbenzene	10	
106-43-4	4-Chlorotoluene	10	
98-06-6	tert-Butylbenzene	10	
95-63-6	1,2,4-Trimethylbenzene	10	
135-98-8	sec-Butylbenzene	10	
99-87-6	p-Isopropyltoluene	10	
541-73-1	1,3-Dichlorobenzene	10	
106-46-7	1,4-Dichlorobenzene	10	
104-51-8	n-Butylbenzene	10	
95-50-1	1,2-Dichlorobenzene	10	
96-12-8	1,2-Dibromo-3-Chloropropane	9	
120-82-1	1,2,4-Trichlorobenzene	11	
87-68-3	Hexachlorobutadiene	10	
91-20-3	Naphthalene	11	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHWELCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHWELCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHW010EQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/29/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
87-61-6	1,2,3-Trichlorobenzene	12	

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

	EPA SAMPLE NO.	SMC1 (DCE) #	SMC2 (BFB) #	SMC3 (DCB) #	OTHER	TOT OUT
01	VBLKL3	84	108	91		0
02	B7-8	85	113	94		0
03	0.5MKYBLCS	88	104	87		0
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
SMC1 (DCE) = 1,2-Dichloroethane-d4	(80-120)
SMC2 (BFB) = Bromofluorobenzene	(86-115)
SMC3 (DCB) = 1,2-Dichlorobenzene-d4	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Level: (low/med) LOW

	EPA SAMPLE NO.	SMC1 (DCE) #	SMC2 (BFB) #	SMC3 (DCB) #	OTHER	TOT OUT
01	OHWBLCS	102	108	106		0
02	VBLKG6	96	106	104		0
03	B7SURFACE	116	163*	88		1
04	OHWDLCS	96	102	101		0
05	VBLKJ2	98	105	103		0
06	B7SURFACERE	128*	165*	95		2
07	B7-10	95	103	102		0
08	B9-0-1	107	133*	100		1
09	B9-7	94	110	100		0
10	OHWELCS	98	104	102		0
11	VBLKH7	98	104	101		0
12	B9-0-1RE	95	125*	96		1
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(80-120)
SMC2 (BFB)	= Bromofluorobenzene	(74-121)
SMC3 (DCB)	= 1,2-Dichlorobenzene-d4	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 32718

Matrix Spike - Sample No.: OHWBLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
o-Xylene	10		11	110	60-140
m- & p-Xylene	20		22	110	60-140
Dichlorodifluoromethane	10		20	200*	60-140
Chloromethane	10		13	130	60-140
Vinyl Chloride	10		13	130	60-140
Bromomethane	10		14	140	60-140
Chloroethane	10		12	120	60-140
Trichlorofluoromethane	10		16	160*	60-140
Acetone	25		12	48*	60-140
1,1-Dichloroethene	10		12	120	70-125
trans-1,2-Dichloroethen	10		12	120	75-125
Carbon Disulfide	10		10	100	60-140
Methylene Chloride	10		12	120	60-140
Methyl-t-Butyl Ether	10		11	110	60-140
1,1-Dichloroethane	10		11	110	60-140
1,2-Dichloroethene (tot	20		23	115	60-140
cis-1,2-Dichloroethene	10		12	120	60-140
2,2-Dichloropropane	10		12	120	60-140
2-Butanone	25		11	44*	60-140
Chloroform	10		11	110	60-140
Bromochloromethane	10		12	120	60-140
1,1,1-Trichloroethane	10		12	120	75-125
1,1-Dichloropropene	10		11	110	60-140
Carbon Tetrachloride	10		11	110	60-140
1,2-Dichloroethane	10		11	110	75-125
Benzene	10		11	110	70-115
Trichloroethene	10		12	120	70-125
1,2-Dichloropropane	10		11	110	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - Sample No.: OHWBLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Bromodichloromethane	10		11	110	60-140
Dibromomethane	10		11	110	60-140
4-Methyl-2-Pentanone	25		11	44*	60-140
cis-1,3-Dichloropropene	10		11	110	60-140
Toluene	10		11	110	80-115
trans-1,3-Dichloroprope	10		11	110	60-140
1,1,2-Trichloroethane	10		10	100	60-140
2-Hexanone	25		12	48*	60-140
1,3-Dichloropropane	10		11	110	60-140
Tetrachloroethene	10		11	110	75-125
1,4-Dioxane					60-140
Tetrahydrofuran					60-140
Dibromochloromethane	10		10	100	60-140
1,2-Dibromoethane	10		10	100	60-140
Chlorobenzene	10		11	110	70-125
1,1,1,2-Tetrachloroetha	10		11	110	60-140
Ethylbenzene	10		11	110	75-125
Xylene (total)	30		33	110	75-125
Styrene	10		11	110	60-140
Bromoform	10		10	100	60-140
Isopropylbenzene	10		11	110	60-140
1,1,2,2-Tetrachloroetha	10		10	100	60-140
1,2,3-Trichloropropane	10		11	110	60-140
Bromobenzene	10		11	110	60-140
n-Propylbenzene	10		11	110	60-140
2-Chlorotoluene	10		11	110	60-140
1,3,5-Trimethylbenzene	10		11	110	60-140
4-Chlorotoluene	10		11	110	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - Sample No.: OHWBLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
tert-Butylbenzene	10		11	110	60-140
1,2,4-Trimethylbenzene	10		11	110	60-140
sec-Butylbenzene	10		11	110	60-140
p-Isopropyltoluene	10		11	110	60-140
1,3-Dichlorobenzene	10		11	110	60-140
1,4-Dichlorobenzene	10		11	110	60-140
n-Butylbenzene	10		11	110	60-140
1,2-Dichlorobenzene	10		11	110	60-140
1,2-Dibromo-3-Chloropro	10		11	110	60-140
1,2,4-Trichlorobenzene	10		11	110	60-140
Hexachlorobutadiene	10		11	110	60-140
Naphthalene	10		12	120	60-140
1,2,3-Trichlorobenzene	10		12	120	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 6 out of 69 outside limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: OHWDLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
o-Xylene	10		11	110	60-140
m- & p-Xylene	20		23	115	60-140
Dichlorodifluoromethane	10		31	310*	60-140
Chloromethane	10		17	170*	60-140
Vinyl Chloride	10		16	160*	60-140
Bromomethane	10		14	140	60-140
Chloroethane	10		13	130	60-140
Trichlorofluoromethane	10		15	150*	60-140
Acetone	25		30	120	60-140
1,1-Dichloroethene	10		12	120	70-125
trans-1,2-Dichloroethen	10		12	120	75-125
Carbon Disulfide	10		11	110	60-140
Methylene Chloride	10		11	110	60-140
Methyl-t-Butyl Ether	10		11	110	60-140
1,1-Dichloroethane	10		11	110	60-140
1,2-Dichloroethene (tot	20		24	120	60-140
cis-1,2-Dichloroethene	10		11	110	60-140
2,2-Dichloropropane	10		12	120	60-140
2-Butanone	25		18	72	60-140
Chloroform	10		12	120	60-140
Bromochloromethane	10		11	110	60-140
1,1,1-Trichloroethane	10		12	120	75-125
1,1-Dichloropropene	10		12	120	60-140
Carbon Tetrachloride	10		11	110	60-140
1,2-Dichloroethane	10		12	120	75-125
Benzene	10		11	110	70-115
Trichloroethene	10		11	110	70-125
1,2-Dichloropropane	10		11	110	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: OHWDLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Bromodichloromethane	10		11	110	60-140
Dibromomethane	10		12	120	60-140
4-Methyl-2-Pentanone	25		24	96	60-140
cis-1,3-Dichloropropene	10		11	110	60-140
Toluene	10		11	110	80-115
trans-1,3-Dichloroprope	10		12	120	60-140
1,1,2-Trichloroethane	10		12	120	60-140
2-Hexanone	25		25	100	60-140
1,3-Dichloropropane	10		11	110	60-140
Tetrachloroethene	10		12	120	75-125
1,4-Dioxane					60-140
Tetrahydrofuran	250		190	76	60-140
Dibromochloromethane	10		11	110	60-140
1,2-Dibromoethane	10		11	110	60-140
Chlorobenzene	10		12	120	70-125
1,1,1,2-Tetrachloroetha	10		11	110	60-140
Ethylbenzene	10		12	120	75-125
Xylene (total)	30		34	113	75-125
Styrene	10		11	110	60-140
Bromoform	10		11	110	60-140
Isopropylbenzene	10		12	120	60-140
1,1,2,2-Tetrachloroetha	10		12	120	60-140
1,2,3-Trichloropropane	10		12	120	60-140
Bromobenzene	10		12	120	60-140
n-Propylbenzene	10		12	120	60-140
2-Chlorotoluene	10		12	120	60-140
1,3,5-Trimethylbenzene	10		12	120	60-140
4-Chlorotoluene	10		12	120	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: OHWELCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
o-Xylene	10		10	100	60-140
m- & p-Xylene	20		20	100	60-140
Dichlorodifluoromethane	10		34	340*	60-140
Chloromethane	10		17	170*	60-140
Vinyl Chloride	10		15	150*	60-140
Bromomethane	10		15	150*	60-140
Chloroethane	10		13	130	60-140
Trichlorofluoromethane	10		12	120	60-140
Acetone	25		14	56*	60-140
1,1-Dichloroethene	10		11	110	60-140
trans-1,2-Dichloroethen	10		11	110	60-140
Carbon Disulfide	10		14	140	60-140
Methylene Chloride	10		11	110	60-140
Methyl-t-Butyl Ether	10		10	100	60-140
1,1-Dichloroethane	10		10	100	60-140
cis-1,2-Dichloroethene	10		11	110	60-140
2,2-Dichloropropane	10		11	110	60-140
2-Butanone	25		20	80	60-140
Chloroform	10		10	100	60-140
Bromochloromethane	10		10	100	60-140
1,1,1-Trichloroethane	10		10	100	60-140
1,1-Dichloropropene	10		11	110	60-140
Carbon Tetrachloride	10		10	100	60-140
1,2-Dichloroethane	10		10	100	60-140
Benzene	10		10	100	60-140
Trichloroethene	10		11	110	60-140
1,2-Dichloropropane	10		10	100	60-140
Bromodichloromethane	10		10	100	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: OHWDLCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
tert-Butylbenzene	10		12	120	60-140
1,2,4-Trimethylbenzene	10		12	120	60-140
sec-Butylbenzene	10		12	120	60-140
p-Isopropyltoluene	10		12	120	60-140
1,3-Dichlorobenzene	10		12	120	60-140
1,4-Dichlorobenzene	10		12	120	60-140
n-Butylbenzene	10		13	130	60-140
1,2-Dichlorobenzene	10		12	120	60-140
1,2-Dibromo-3-Chloropro	10		12	120	60-140
1,2,4-Trichlorobenzene	10		13	130	60-140
Hexachlorobutadiene	10		14	140	60-140
Naphthalene	10		13	130	60-140
1,2,3-Trichlorobenzene	10		14	140	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 4 out of 69 outside limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: OHWELCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
sec-Butylbenzene	10		10	100	60-140
p-Isopropyltoluene	10		10	100	60-140
1,3-Dichlorobenzene	10		10	100	60-140
1,4-Dichlorobenzene	10		10	100	60-140
n-Butylbenzene	10		10	100	60-140
1,2-Dichlorobenzene	10		10	100	60-140
1,2-Dibromo-3-Chloropro	10		9	90	60-140
1,2,4-Trichlorobenzene	10		11	110	60-140
Hexachlorobutadiene	10		10	100	60-140
Naphthalene	10		11	110	60-140
1,2,3-Trichlorobenzene	10		12	120	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 6 out of 67 outside limits

COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKG6

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Lab File ID: OHWB002BV Lab Sample ID: VBLKG6

Date Analyzed: 11/25/96 Time Analyzed: 1155

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: O

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	OHWBLCS	OHWBLCS	OHWQ001BV	1041
02	B7SURFACE	319556	O319556V	1944
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKL3

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Lab File ID: MKTB001BV Lab Sample ID: VBLKL3

Date Analyzed: 12/04/96 Time Analyzed: 1241

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: M

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	B7-8	319557	M319557	1409
02	0.5MKYBLCS	0.5MKYBLCS	MKT002BQV	1621
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKJ2

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Lab File ID: OHWB001DV Lab Sample ID: VBLKJ2

Date Analyzed: 11/27/96 Time Analyzed: 1910

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: O

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	OHWDLCS	OHWDLCS	OHW010DQV	1835
02	B7SURFACERE	319556R1	O319556I2V	2135
03	B7-10	319558	O319558V	2206
04	B9-0-1	319561	O319561V	2236
05	B9-7	319562	O319562V	2307
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKH7

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Lab File ID: OHWB002EV Lab Sample ID: VBLKH7

Date Analyzed: 11/29/96 Time Analyzed: 1559

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: O

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	OHWELCS	OHWELCS	OHW010EQV	1458
02	B9-0-1RE	319561R1	O319561I2V	1659
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: OHWELCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	10		10	100	60-140
4-Methyl-2-Pentanone	25		21	84	60-140
cis-1,3-Dichloropropene	10		10	100	60-140
Toluene	10		10	100	60-140
trans-1,3-Dichloroprope	10		10	100	60-140
1,1,2-Trichloroethane	10		9	90	60-140
2-Hexanone	25		19	76	60-140
1,3-Dichloropropane	10		10	100	60-140
Tetrachloroethene	10		10	100	60-140
1,4-Dioxane					60-140
Tetrahydrofuran	50		170	340*	60-140
Dibromochloromethane	10		9	90	60-140
1,2-Dibromoethane	10		9	90	60-140
Chlorobenzene	10		10	100	60-140
1,1,1,2-Tetrachloroetha	10		10	100	60-140
Ethylbenzene	10		10	100	60-140
Styrene	10		10	100	60-140
Bromoform	10		9	90	60-140
Isopropylbenzene	10		10	100	60-140
1,1,2,2-Tetrachloroetha	10		9	90	60-140
1,2,3-Trichloropropane	10		9	90	60-140
Bromobenzene	10		10	100	60-140
n-Propylbenzene	10		10	100	60-140
2-Chlorotoluene	10		10	100	60-140
1,3,5-Trimethylbenzene	10		10	100	60-140
4-Chlorotoluene	10		10	100	60-140
tert-Butylbenzene	10		10	100	60-140
1,2,4-Trimethylbenzene	10		10	100	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B8-0-5

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 319559

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319559V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. 16 Date Analyzed: 12/03/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	1	J
108-88-3	Toluene	3	J
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	2	J
1330-20-7	Xylene (total)	10	
541-73-1	1,3-Dichlorobenzene	6	U
106-46-7	1,4-Dichlorobenzene	6	U
95-50-1	1,2-Dichlorobenzene	6	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B8-0-5RE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 319559R1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319559I2V

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. 16 Date Analyzed: 12/03/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	0.9	J
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	1	J
1330-20-7	Xylene (total)	5	J
541-73-1	1,3-Dichlorobenzene	6	U
106-46-7	1,4-Dichlorobenzene	6	U
95-50-1	1,2-Dichlorobenzene	6	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B8-8

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) WATER Lab Sample ID: 319560

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: M319560I3V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. _____ Date Analyzed: 12/04/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
71-43-2	Benzene	1.0	U
108-88-3	Toluene	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	0.36	J
1330-20-7	Xylene (total)	0.92	J
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

11SE-0-10

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 52718

Matrix: (soil/water) SOIL Lab Sample ID: 319563

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319563V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. 11 Date Analyzed: 12/03/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
1330-20-7	Xylene (total)	6	U
541-73-1	1,3-Dichlorobenzene	6	U
106-46-7	1,4-Dichlorobenzene	6	U
95-50-1	1,2-Dichlorobenzene	6	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

11SW-O-10

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 319564

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319564V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. 7 Date Analyzed: 12/03/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

12S-0-10

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 319566

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319566I2V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. 8 Date Analyzed: 12/03/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

12W-0-10

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 319565

Sample wt/vol: 5.0 (g/mL) G Lab File ID: O319565V

Level: (low/med) LOW Date Received: 11/21/96

% Moisture: not dec. 10 Date Analyzed: 12/03/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
1330-20-7	Xylene (total)	6	U
541-73-1	1,3-Dichlorobenzene	6	U
106-46-7	1,4-Dichlorobenzene	6	U
95-50-1	1,2-Dichlorobenzene	6	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKK7

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 32718

Matrix: (soil/water) SOIL Lab Sample ID: VBLKK7

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHVB001BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/03/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKL3

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) WATER Lab Sample ID: VBLKL3

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: MKTB001BV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/04/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
71-43-2	Benzene	1.0	U
108-88-3	Toluene	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1330-20-7	Xylene (total)	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OHVBLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: OHVBLCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHV001BQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/03/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	12	
108-88-3	Toluene	11	
108-90-7	Chlorobenzene	12	
100-41-4	Ethylbenzene	12	
1330-20-7	Xylene (total)	36	
541-73-1	1,3-Dichlorobenzene	12	
106-46-7	1,4-Dichlorobenzene	13	
95-50-1	1,2-Dichlorobenzene	12	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0.5OHVBLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix: (soil/water) SOIL Lab Sample ID: 0.5OHVBLCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: OHV002BQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/03/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	0.8	J
108-88-3	Toluene	0.9	J
108-90-7	Chlorobenzene	1	J
100-41-4	Ethylbenzene	1	J
1330-20-7	Xylene (total)	3	J
541-73-1	1,3-Dichlorobenzene	1	J
106-46-7	1,4-Dichlorobenzene	1	J
95-50-1	1,2-Dichlorobenzene	1	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0.5MKYBLCS

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 52718

Matrix: (soil/water) WATER Lab Sample ID: 0.5MKYBLCS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: MKT002BQV

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/04/96

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
71-43-2	Benzene	0.43	J
108-88-3	Toluene	0.44	J
108-90-7	Chlorobenzene	0.43	J
100-41-4	Ethylbenzene	0.47	J
1330-20-7	Xylene (total)	1.4	
541-73-1	1,3-Dichlorobenzene	0.46	J
106-46-7	1,4-Dichlorobenzene	0.46	J
95-50-1	1,2-Dichlorobenzene	0.46	J

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Level: (low/med) LOW

	EPA SAMPLE NO.	SMC1 (DCE) #	SMC2 (BFB) #	SMC3 (DCB) #	OTHER	TOT OUT
01	OHVBLCS	105	101	99		0
02	0.5OHVBLCS	110	108	106		0
03	VBLKK7	108	106	105		0
04	11SE-0-10	110	121	105		0
05	11SW-O-10	107	112	104		0
06	12W-0-10	109	118	104		0
07	B8-0-5	149*	149*	70*		3
08	12S-0-10	91	104	89		0
09	B8-0-5RE	127*	148*	71*		3
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
SMC1 (DCE) = 1,2-Dichloroethane-d4	(80-120)
SMC2 (BFB) = Bromofluorobenzene	(74-121)
SMC3 (DCB) = 1,2-Dichlorobenzene-d4	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

	EPA SAMPLE NO.	SMC1 (DCE) #	SMC2 (BFB) #	SMC3 (DCB) #	OTHER	TOT OUT
01	VBLKL3	84	108	91		0
02	B8-8	91	114	91		0
03	0.5MKYBLCS	88	104	87		0
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(80-120)
SMC2 (BFB)	= Bromofluorobenzene	(86-115)
SMC3 (DCB)	= 1,2-Dichlorobenzene-d4	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: OHVBLCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Xylene (m,p)	20		24	120	60-140
Xylene (o)	10		12	120	60-140
Benzene	10		12	120	60-140
Toluene	10		11	110	60-140
Chlorobenzene	10		12	120	60-140
Ethylbenzene	10		12	120	60-140
Xylene (total)	30		36	120	60-140
1,3-Dichlorobenzene	10		12	120	60-140
1,4-Dichlorobenzene	10		13	130	60-140
1,2-Dichlorobenzene	10		12	120	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

FORM 3
SOIL VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: 0.5OHVBLC Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Xylene (m,p)	2		2	100	60-140
Xylene (o)	1		1	100	60-140
Benzene	1		0.8	80	60-140
Toluene	1		0.9	90	60-140
Chlorobenzene	1		1	100	60-140
Ethylbenzene	1		1	100	60-140
Xylene (total)	3		3	100	60-140
1,3-Dichlorobenzene	1		1	100	60-140
1,4-Dichlorobenzene	1		1	100	60-140
1,2-Dichlorobenzene	1		1	100	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Matrix Spike - INCHVT Sample No.: 0.5MKYBLC

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Xylene (m,p)	1.0		0.88	88	60-140
Xylene (o)	0.50		0.44	88	60-140
Benzene	0.50		0.43	86	60-140
Toluene	0.50		0.44	88	60-140
Chlorobenzene	0.50		0.43	86	60-140
Ethylbenzene	0.50		0.47	94	60-140
Xylene (total)	1.5		1.4	93	60-140
1,3-Dichlorobenzene	0.50		0.46	92	60-140
1,4-Dichlorobenzene	0.50		0.46	92	60-140
1,2-Dichlorobenzene	0.50		0.46	92	60-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKK7

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Lab File ID: OHVB001BV Lab Sample ID: VBLKK7

Date Analyzed: 12/03/96 Time Analyzed: 1503

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: O

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	OHVBLCS	OHVBLCS	OHV001BQV	1406
02	0.5OHVBLCS	0.5OHVBLCS	OHV002BQV	1430
03	11SE-0-10	319563	O319563V	1540
04	11SW-O-10	319564	O319564V	1621
05	12W-0-10	319565	O319565V	1652
06	B8-0-5	319559	O319559V	1754
07	12S-0-10	319566	O319566I2V	2103
08	B8-0-5RE	319559R1	O319559I2V	2134
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKL3

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96028

Lab Code: INCHVT Case No.: 96028 SAS No.: SDG No.: 62718

Lab File ID: MKTB001BV Lab Sample ID: VBLKL3

Date Analyzed: 12/04/96 Time Analyzed: 1241

GC Column: CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: M

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	B8-8	319560	M319560I3V	1504
02	0.5MKYBLCS	0.5MKYBLCS	MKT002BQV	1621
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

Appendix D:
Boring / Monitoring Well Logs for environmental investigation:
Wilder, Spates, 12NW, 12 NE, 8W, 8C, 8E, 9W, and 9C (9 total)

Boring / Monitoring Well Log

Boring ID: Wilder

Location: Fuel oil UST excavation
Rationale: source area

Project site: **State Office Building**
Town: Newport, Vermont

Boring Co.: Green Mountain Boring
Operator(s): Ron Garneau
Dave Johnson
Date, time: 2 January 1997, 1125

Super. Co.: Aquaterra
Supervisor: Roland Luxenberg, P.E.
Groundwater:

Depth, feet	Blows per 6" on sampler	Sample Type	Rec.	Description	Moist.	Odor	PID, ppm
5 - 7	7/8/7/6	SS	29%	Brown fine and medium sand, some silt	dry	some on cuttings	0.5
10 - 12	7/8/8/6	SS	29%	Brown fine and medium sand, trace silt	dry	some on cuttings	0.7
15 - 17	3/3/4/5	SS	42%	Brown medium sand with trace gravel	dry		0.3
20 - 22	4/5/4/5	SS	75%	Brown medium sand, some fine sand, moist at 21.5', then dry	dry		0.3
25 - 27	14/19/16/12	SS	50%	Brown medium and coarse sand with gravel, clayey at tip with silt lenses	dry		0.3
30 - 32	7/7/6/8	SS	100%	Brown medium sand to 30.25, Grey/brown silty clay	wet		0.3 @ 30' 0.3 at 32'

Boring information

Augers: 4.25" ID
Sampler: 2" OD, 1.375" ID, 2' split spoor
Hammer
Weight: 140 pounds
Fall: 2.5'

Well construction

Screen:
Riser:
Sand:
Bentonite:
Prot casing:

Monitoring Well ID:

Boring / Monitoring Well Log

Boring ID: Spates

Location: Fuel oil UST excavation
Rationale: source area

Project site: **State Office Building**
Town: Newport, Vermont

Boring Co.: Green Mountain Boring
Operator(s): Ron Garneau
Dave Johnson
Date, time: 2 January 1997, 1430

Super. Co.: Aquaterra
Supervisor: Roland Luxenberg, P.E.
Groundwater:

Depth, feet	Blows per 6" on sampler	Sample Type	Rec.	Description	Moist.	Odor	PID, ppm
5 - 7	3/2/1/2	SS	54%	Brown medium sand, trace gravel	dry	"burnt"	0.5
7 - 9	4/4/4/5	SS	25%	Brown medium sand, some gravel	dry	"burnt"	0.3
9 - 11	4/5/6/6	SS	67%	Brown medium sand with coarse sand and gravel, trace silt	dry		0.3
11 - 13	8/10/11/12	SS	63%	Tan medium sand	dry		0.7
13 - 15	10/14/20/24	SS	58%	Brown medium sand, some coarse sand	dry		1.3
15 - 17	15/20/27/39	SS	46%	Brown medium sand with gravel	dry		3.0
17 - 19	28/14/15	SS	17%	Brown medium to coarse sand, some silt	wet	"burnt"	4.0

Boring information

Augers: 4.25" ID
Sampler: 2" OD, 1.375" ID, 2' split spoon
Hammer
Weight: 140 pounds
Fall: 2.5'

Well construction

Screen:
Riser:
Sand:
Bentonite:
Prot casing:
Monitoring Well ID:

Boring / Monitoring Well Log

Boring ID: 12NW

Location: off NE corner of barn, prop 12f
Rationale: downgradient of prop 3 UST

Project site: **State Office Building**
Town: Newport, Vermont

Boring Co.: Green Mountain Boring
Operator(s): Ron Garneau
Dave Johnson
Date, time: 2 January 1997, 1600

Super. Co.: Aquaterra
Supervisor: Roland Luxenberg, P.E.
Groundwater:

Depth, feet	Blows per 6" on sampler	Sample Type	Rec.	Description	Moist.	Odor	PID, ppm
5 - 7	4/4/5/5	SS	38%	Medium and coarse sand with gravel	dry	"burnt"	0.8
10 - 12	6/7/6/5	SS	58%	Medium sand	dry		0.3
15 - 17	5/6/7/9	SS	29%	Fine sand with silt	wet		0.3

Boring information

Augers: 4.25" ID
Sampler: 2" OD, 1.375" ID, 2' SS Hammer
Weight: 140 pounds
Fall: 2.5'

Well construction

Screen:
Riser:
Sand:
Bentonite:
Prot casing:
Monitoring Well ID:

Boring / Monitoring Well Log

Boring ID: 12NE

Location: off NE corner of prop 12B
Rationale: Downgradient of boring B-3

Project site: **State Office Building**
Town: Newport, Vermont

Boring Co.: Green Mountain Boring
Operator(s): Ron Garneau
Dave Johnson
Date, time: 3 January 1997, 0700

Super. Co.: Aquaterra
Supervisor: Roland Luxenberg, P.E.
Groundwater: 12.2' below grade at 1245

Depth, feet	Blows per 6" on sampler	Sample Type	Rec.	Description	Moist.	Odor	PID, ppm
5 - 7	3/2/4/8	SS	42%	Brown fine sand, trace silt	dry		0.8
10 - 12	6/6/6/4	SS	58%	Brown fine sand, trace silt	dry		0.7
15 - 17	6/4/4/6	SS	58%	Fine sand with silt	wet	fuel oil*	90

* Two thought fuel oil, one gasoline

poor recovery during
well development

Boring information

Augers: 4.25" ID
Sampler: 2" OD, 1.375" ID, 2' split spoor
Hammer
Weight: 140 pounds
Fall: 2.5'

Well construction * plus filter sock

Screen: 2.0" PVC, .01" slot*; 15-10'
Riser: 2.0" PVC; 10-0.0'
Sand: native, 15 - 5.5', 4.5 - 0.0'
Bentonite: 3/8", 5.5 - 4.5'
Prot casing: none; screw-on PVC stickup
Monitoring Well ID: 12NE

Boring / Monitoring Well Log

Boring ID: 8W

Location: near NW corner of prop 8
Rationale: downgradient of gasoline UST

Project site: **State Office Building**
Town: Newport, Vermont

Boring Co.: Green Mountain Boring
Operator(s): Ron Garneau
Dave Johnson
Date, time: 3 January 1997, 0950

Super. Co.: Aquaterra
Supervisor: Roland Luxenberg, P.E.
Groundwater: 3.7' below grade at 1240

Depth, feet	Blows per 6" on sampler	Sample Type	Sample Rec.	Description	Moist.	Odor	PID, ppm
5 - 7	3/7/10/13	SS	83%	Brown medium sand with coarse sand and gravel, grading to fine sand with some silt at 7' sheen on rinsewater from split spoons; no odor in purgewater during well development some cinders in initial cuttings, then faint petroleum odor in underlying sand	wet	Pet	0.3 @ 5-6' 2.0 @ 6-6.5' 1.0 @ 6.5-7'

Boring information
Augers: 4.25" ID
Sampler: 2" OD, 1.375" ID, 2' split spoor
Hammer
Weight: 140 pounds
Fall: 2.5'

Well construction
Screen: 2.0" PVC, .01" slot; 8-3'
Riser: 2.0" PVC; 3-0.3'
Sand: #1 well gravel, 8 - 2.5'
Bentonite: 3/8", 2.5 - 2.0'
Prot casing: 8" dia. flush mount
Monitoring Well ID: 8W

Boring / Monitoring Well Log

Boring ID: 8C

Location: near north boundary of prop 8
Rationale: downgradient of gasoline UST

Project site: **State Office Building**
Town: Newport, Vermont

Boring Co.: Green Mountain Boring
Operator(s): Ron Garneau
Dave Johnson
Date, time: 3 January 1997, 1130

Super. Co.: Aquaterra
Supervisor: Roland Luxenberg, P.E.
Groundwater: 4.4' below grade at 1310

Depth, feet	Blows per 6" on sampler	Sample Type	Sample Rec.	Description	Moist.	Odor	PID, ppm
5 - 7	6/4/5/9	SS	92%	Fine sand with medium sand and black cinders, 5 - 5.5'	wet		0.3 @ 5.5-6'
				Brown fine sand with silt, some medium sand, 5.5 - 6'	wet		
				Brown medium sand and gravel, some cinders, 6 - 7' with iron staining at 6.5'	wet		0.3 @ 6-7'
				some oily staining in cuttings, with an oily odor			

Boring information

Augers: 4.25" ID
Sampler: 2" OD, 1.375" ID, 2' split spoor
Hammer
Weight: 140 pounds
Fall: 2.5'

Well construction

Screen: 2.0" PVC, .01" slot; 8-3'
Riser: 2.0" PVC; 3-0.3'
Sand: #1 well gravel, 8 - 2.5'
Bentonite: 3/8", 2.5 - 2.0'
Prot casing: 8" dia. flush mount

Monitoring Well ID: 8C

Boring / Monitoring Well Log

Boring ID: 8E

Location: near NE boundary of prop 8
Rationale: downgradient of gasoline UST

Project site: **State Office Building**
Town: Newport, Vermont

Boring Co.: Green Mountain Boring
Operator(s): Ron Garneau
Dave Johnson
Date, time: 3 January 1997, 1350

Super. Co.: Aquaterra
Supervisor: Roland Luxenberg, P.E.

Groundwater: 3.9' below grade at 1545

Depth, feet	Blows per 6" on sampler	Sample Type	Sample Rec.	Description	Moist.	Odor	PID, ppm
4 - 6	6/5/4/3	SS	42%	Medium sand with fine sand and gravel, wood at top	wet	"burnt"	0.3 @ 5-6'
				wood at ground surface			

Boring information

Augers: 4.25" ID
Sampler: 2" OD, 1.375" ID, 2' split spoor
Hammer
Weight: 140 pounds
Fall: 2.5'

Well construction

Screen: 2.0" PVC, .01" slot; 8-3'
Riser: 2.0" PVC; 3-0.3'
Sand: #1 well gravel, 8 - 2.5'
Bentonite: 3/8", 2.5 - 2.0'
Prot casing: 8" dia. flush mount
Monitoring Well ID: 8E

Boring / Monitoring Well Log

Boring ID: 9W

Location: near NW boundary of prop 9
Rationale: downgradient receptor

Project site: **State Office Building**
Town: Newport, Vermont

Boring Co.: Green Mountain Boring
Operator(s): Ron Garneau
Dave Johnson
Date, time: 3 January 1997, 1255

Super. Co.: Aquaterra
Supervisor: Roland Luxenberg, P.E.
Groundwater: 3.7' below grade at 1545

Depth, feet	Blows per 6" on sampler	Sample Type	Rec.	Description	Moist.	Odor	PID, ppm
4 - 6	6/7/8/10	SS	75%	Brown fine sand, trace silt and black cinders, 4 - 5.3'	wet		0.3 @ 4.5-5'
				Light tan fine sand with iron staining and detritus, 5.3'	wet		
				Dark grey medium sand with fine sand and gravel, 5.3 - 6'	wet	"burnt"	0.3 @ 5.5-6'

Boring information

Augers: 4.25" ID
Sampler: 2" OD, 1.375" ID, 2' split spoor
Hammer
Weight: 140 pounds
Fall: 2.5'

Well construction

Screen: 2.0" PVC, .01" slot; 8-3'
Riser: 2.0" PVC; 3-0.3'
Sand: #1 well gravel, 8 - 2.5'
Bentonite: 3/8", 2.5 - 2.0'
Prot casing: 8" dia. flush mount
Monitoring Well ID: 9W

Boring / Monitoring Well Log

Boring ID: 9C

Location: near N boundary of prop 9
Rationale: downgradient receptor

Project site: **State Office Building**
Town: Newport, Vermont

Boring Co.: Green Mountain Boring
Operator(s): Ron Garneau
Dave Johnson
Date, time: 3 January 1997, 1515

Super. Co.: Aquaterra
Supervisor: Roland Luxenberg, P.E.
Groundwater:

Depth, feet	Blows per 6" on sampler	Sample Type	Sample Rec.	Description	Moist.	Odor	PID, ppm
5 - 7	5/10/14/16	SS	54%	Medium sand and gravel, some fine sand and silt; petroleum staining throughout, darkest at 5'	wet	fuel oil	65 @ 5.5-6' 30 @ 6.5-7'
				petroleum odor in cuttings starting at about 3 - 4'; PID = 35 ppm			
				Obvious sheen on SS			

Boring information
Augers: 4.25" ID
Sampler: 2" OD, 1.375" ID, 2' split spoon
Hammer
Weight: 140 pounds
Fall: 2.5'

Well construction
Screen: 2.0" PVC, .01" slot; 8-3'
Riser: 2.0" PVC; 3-0.3'
Sand: #1 well gravel, 8 - 2.5'
Bentonite: 3/8", 2.5 - 2.0'
Prot casing: 8" dia flush mount
Monitoring Well ID: 8E

Appendix E:
Analytical Reports for water sampling on 13 January 1997

ITS Environmental
Laboratories

55 South Park Drive
Colchester, VT 05446

Analytical Report

Aquaterra
39 Pinnacle Drive
So. Burlington, VT 05403

Attention : Roland Luxenberg

Date : 01/29/97
ETR Number : 63476
Project No.: 96000
No. Samples: 7
Arrived : 01/14/97

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
323750	B-2:01/13/97 (Water)	
418.1	Petroleum Hydrocarbons	0.46
323751	12NE:01/13/97 (Water)	
418.1	Petroleum Hydrocarbons	4.8
323752	8W:01/13/97 (Water)	
418.1	Petroleum Hydrocarbons	3.5
323753	8C:01/13/97 (Water)	
418.1	Petroleum Hydrocarbons	4.2
323754	8E:01/13/97 (Water)	
418.1	Petroleum Hydrocarbons	8.8
323755	9W:01/13/97 (Water)	
418.1	Petroleum Hydrocarbons	4.8
323756	9C:01/13/97 (Water)	
418.1	Petroleum Hydrocarbons	72.7

< Last Page >

Submitted By : Karen P. Craig

Aquatec Inc.

Inchcape Testing Services
Environmental Laboratories

55 South Park Drive
Colchester, VT 05446
Tel. 802-655-1203
Fax. 802-655-1248

The following Qualifiers may be used when reporting any Organic Parameters analyzed by Gas Chromatography (GC) or High Pressure Liquid Chromatography (HPLC). Any additional qualifiers used in the reports will be described in the case narrative. These flags are based on the EPA Contract Laboratory Program statement of work.

GC/HPLC Qualifiers

U - Indicates compound was analyzed for but not detected above the reporting limit.

J - Indicates an estimated value. This flag is used when the result is less than the reporting limit, but ≥ 1/2 reporting limit.

P - This flag is used for a pesticide/Aroclor target analyte when there is greater than 25.0% difference for detected concentrations between the two analytical columns. The lower of the two values is reported on the Form I and flagged with a "P".

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated method blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. Only the samples get a "B" flag. The method blank does not.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. This flag alerts data users that any discrepancies between the concentrations reported for the dilutions may be due to dilution of the sample or extract. It additionally indicates that spike recoveries may have been diluted below quantifiable levels.

E - This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of calibration range, the extract shall be diluted and re-analyzed.

X,Y,Z -Laboratory defined flags. These flags must be fully described, and such description attached to the Sample Data Summary Package and the case Narrative. Begin by using "X" and go on to "Y" and "Z" as necessary. These flags may also be used to combine several flags, as needed.

FORM 1
8020-VOA ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B-2

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96000

Lab Code: INCHVT Case No.: 96000 SAS No.: SDG No.: 63476

Matrix: (soil/water) WATER Lab Sample ID: 323750

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 17JAN970127-I021

Level: (low/med) LOW Date Received: 01/14/97

% Moisture: not dec. _____ Date Analyzed: 01/17/97

GC Column: DB-VRX ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-Butyl Ether	0.50	U
108-90-7	Chlorobenzene	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
71-43-2	Benzene	0.50	U
108-88-3	Toluene	0.50	U
100-41-4	Ethylbenzene	0.50	U
----------	p/m-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U

FORM 1
8020-VOA ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

12NE

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96000

Lab Code: INCHVT Case No.: 96000 SAS No.: SDG No.: 63476

Matrix: (soil/water) WATER Lab Sample ID: 323751

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 21JAN970521-I041

Level: (low/med) LOW Date Received: 01/14/97

% Moisture: not dec. _____ Date Analyzed: 01/22/97

GC Column: DB-VRX ID: 0.45 (mm) Dilution Factor: 15.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-Butyl Ether	7.5	U
108-90-7	Chlorobenzene	7.5	U
541-73-1	1,3-Dichlorobenzene	7.5	U
106-46-7	1,4-Dichlorobenzene	7.5	U
95-50-1	1,2-Dichlorobenzene	7.5	U
71-43-2	Benzene	7.5	U
108-88-3	Toluene	7.5	U
100-41-4	Ethylbenzene	12	
----------	p/m-Xylene	47	
95-47-6	o-Xylene	20	
100-42-5	Styrene	7.5	U

FORM 1
8020-VOA ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

8W

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96000

Lab Code: INCHVT Case No.: 96000 SAS No.: SDG No.: 63476

Matrix: (soil/water) WATER Lab Sample ID: 323752

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 17JAN970127-I031

Level: (low/med) LOW Date Received: 01/14/97

% Moisture: not dec. _____ Date Analyzed: 01/17/97

GC Column: DB-VRX ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-Butyl Ether	17	
108-90-7	Chlorobenzene	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
71-43-2	Benzene	0.50	U
108-88-3	Toluene	0.50	U
100-41-4	Ethylbenzene	0.50	U
----------	p/m-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U

FORM 1
8020-VOA ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

8C

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96000

Lab Code: INCHVT Case No.: 96000 SAS No.: SDG No.: 63476

Matrix: (soil/water) WATER Lab Sample ID: 323753

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 17JAN970127-I041

Level: (low/med) LOW Date Received: 01/14/97

% Moisture: not dec. _____ Date Analyzed: 01/17/97

GC Column: DB-VRX ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-Butyl Ether	8.4	
108-90-7	Chlorobenzene	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
71-43-2	Benzene	0.50	U
108-88-3	Toluene	0.50	U
100-41-4	Ethylbenzene	0.50	U
----------	p/m-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U

FORM 1
8020-VOA ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

8E

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96000

Lab Code: INCHVT Case No.: 96000 SAS No.: SDG No.: 63476

Matrix: (soil/water) WATER Lab Sample ID: 323754

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 17JAN970127-I051

Level: (low/med) LOW Date Received: 01/14/97

% Moisture: not dec. _____ Date Analyzed: 01/17/97

GC Column: DB-VRX ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-Butyl Ether	0.50	U
108-90-7	Chlorobenzene	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
71-43-2	Benzene	0.50	U
108-88-3	Toluene	0.50	U
100-41-4	Ethylbenzene	0.50	U
----------	p/m-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U

FORM 1
8020-VOA ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

9W

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96000

Lab Code: INCHVT Case No.: 96000 SAS No.: SDG No.: 63476

Matrix: (soil/water) WATER Lab Sample ID: 323755

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 17JAN970129-I011

Level: (low/med) LOW Date Received: 01/14/97

% Moisture: not dec. _____ Date Analyzed: 01/18/97

GC Column: DB-VRX ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-Butyl Ether	0.50	U
108-90-7	Chlorobenzene	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
71-43-2	Benzene	0.50	U
108-88-3	Toluene	0.50	U
100-41-4	Ethylbenzene	0.50	U
----------	p/m-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U

FORM 1
8020-VOA ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

9C

Lab Name: INCHCAPE ENVIRONMENTAL Contract: 96000

Lab Code: INCHVT Case No.: 96000 SAS No.: SDG No.: 63476

Matrix: (soil/water) WATER Lab Sample ID: 323756

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 17JAN970129-I031

Level: (low/med) LOW Date Received: 01/14/97

% Moisture: not dec. _____ Date Analyzed: 01/18/97

GC Column: DB-VRX ID: 0.45 (mm) Dilution Factor: 5.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-Butyl Ether	2.5	U
108-90-7	Chlorobenzene	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
71-43-2	Benzene	2.5	U
108-88-3	Toluene	2.5	U
100-41-4	Ethylbenzene	2.5	U
----------	p/m-Xylene	9.0	
95-47-6	o-Xylene	2.5	U
100-42-5	Styrene	2.5	U